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A. W. TRETTIEN

A DISSERTATION SUBMITTED TO THE FACULTY OF
CLARK UNIVERSITY, WORCESTER, MASS., IN PARTIAL
FULFILMENT OF THE REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY, AND ACCEPTED
ON THE RECOMMENDATION OF G. STANLEY HALL

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PSYCHOLOGY OF THE LANGUAGE INTEREST OF CHILDREN.

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INTRODUCTORY STATEMENT.

Since the pendulum of psychological investigation has gradually moved from the metaphysical toward a more scientific point of view during the last two decades, many important observations have been made upon child life which begin to suggest what the deeper interests of childhood are. And when genetic psychology has answered that question, it will be called upon, at least, to suggest an answer to a pedagogical corollary,—What food, physical and mental, will best contribute to a most complete development of the child?

The following study is an attempt to correlate such observations as have been made upon the language of children; and to trace the periods of growth and development of the *language interest*, in order to bring into relief those stages in the unfolding mind in which the growth of language has been especially significant or intense. The data which have contributed to this study have been gathered from the individual records of children, from the general psychological, child study and philological literature, supplemented by observations of parents and teachers.

When Froebel gave to the world his "Education of Man," nearly a century ago, he seems to have anticipated the line of the modern genetic movement when he said, "The mind and the outer world (first as nature), and language, which unites the two, are the poles of boy life, as they were the poles of mankind as a whole in the approaching maturity." He there indicated the fundamental lines of interests along which the human race has moved and lived and had its being, namely, Art, Language, Religion, and Science. And each of these interests, by the peculiar form of its reactions, has left the earmarks of progress upon the race. Before language in its present form was possible in the race; before it could develop to any degree of complexity, the senses, nerves, muscles, tongue, lips, larynx, and lungs were all made. On the other hand, as the race moved on in its progress from *homo alalus* to *homo sapiens*, the earlier forms of impulsive expressive movements became inadequate under conditions of a larger experience, dumb signs

and inarticulate cries were superseded by the higher forms of articulate speech and, as Drummond says, "a body of language was built up word by word, as the body was built cell by cell."

Psychologists and philologists are alike agreed in that the language interest holds a unique position in mental development. "There is not in a known language," says Professor Whitney, "a single item which can be truly claimed to exist 'by nature;' each stands in its accepted use 'by an act of attribution,' in which men's circumstances, habits, preferences, and will are the determining forces." Language thus becomes an index of the stages of culture. On the other hand, speech has been the ladder by which the mind has ascended into the higher forms of thought. Or, to change the figure with Sir William Hamilton, "Language is to the mind precisely what the arch is to the tunnel. The power of thinking and the power of excavating are not dependent on the word in the one case nor on the mason work in the other; but without these subsidiaries neither process could be carried on beyond its rudimentary commencement."

In studying the language interests of children, we are in a field not without its difficulties. While much has been written upon the development of language in the race as well as in the child, there are at present only a limited number of well authenticated continuous observations of child language available.

The second difficulty results from the fact that the language interest in its fuller development becomes exceedingly complex and intricate, since its roots extend into every realm of the soul,—senses, emotions, intellect, and volition all play upon the cords of vocal expression. And if, as Meumann says (54, p. 8), the development of language is to proceed normally, there must have occurred at no point a defect or a retardation of the physical or psychical growth. The attention of the child, his power of concentration, his memory, and above all a disposition (*gemuthsleben*), indeed, peculiar impulses, like the impulse of imitation, must be absolutely intact—the powers which correspond to this period of development. If even a single one of these general psychological conditions is not fully met, the development of speech becomes abnormal, either by being unduly retarded, or by remaining absent entirely.

GENERAL THEORIES OF LANGUAGE DEVELOPMENT.

Since the days of Psammetichus, King of Egypt (d. 610 B.C.), the speech of little children has been a source of wonderment to man; for this ancient king, according to Herodotus, began to speculate upon the problem of the origin of language. He pursued the experimental method in attempting to find the original language of primitive man; since language was be-

lieved to be innate, and that if a child could be entirely secluded from human contact, he would revert instinctively to the primitive language of the race. With this theory in mind, according to Farrar, the great king placed two infants under the care of a shepherd with the injunction to let them suck the milk of a goat and to speak to no one in their presence. When the shepherd, after two years, came to them, the little ones came forward with outstretched hands uttering the word *bekos*, which was found to be the Phrygian word for *bread*. The king thereupon concluded that the Phrygians were the most primitive people and spoke the original language.

While the origin of race language remains as much of a mystery as ever, the principal theories of development in modern thought naturally fall into two general classes; those which place the emphasis upon the impulse of expression, and those which place the emphasis upon the impulse of imitation. To the first class belongs (1) the natural sound theory, which holds that speech sounds are interjectional forms of language. (2) To this class, also, belongs the invention theory, which holds that the race and, in a measure, the child sets about and invents a language for itself. The invention theory, as such, is no longer accepted by psychologists. (3) The supernatural or miraculous theory may also be placed under this class. It holds that language was a special gift of God to man. To the second general class belongs the imitation or onomatopoeic theory, which is historically the oldest, and it is still most widely accepted to-day. Its fundamental position is that speech is directly or indirectly derived from the imitation of sounds perceived. On the whole the most tenable theory from a psychological point of view, and one which, in a measure, unifies the acceptable features of the various theories, is the theory which Professor Wundt (91, II, p. 603) sets forth in the *developmental theory*. This theory holds that language was not superimposed upon the mind at any stage, but develops with the mind as a form of mental reaction, a differentiated form of the pantomimic movements. As the infant is born into an exceedingly complex language environment, and the impulse of imitation manifests itself early, language necessarily becomes of precocious development. This theory recognizes the function of both the spontaneous impulse of expression as well as the imitation in the development of child language.

As regards the physiological and psychological processes by which the faculty of articulate speech was acquired, John Fiske believes that no adequate explanation has yet been offered either upon the Darwinian or upon any other theory. "For," he continues, "the so called 'bow-wow' or onomatopoeic theory is no doubt correct, so far as it goes, as a description of facts

which have attended the acquisition of speech, but it hardly goes to the root of the matter. The power of enunciating sound so as to communicate ideas and feelings is certainly an art. . . . For the original acquisition of such an art two conditions are requisite,—the physiological capacity of the vocal organs for producing articulate sounds, and the psychological capacity of abstraction implied in the conception of sign and symbol. It is due to the lengthened period of infancy in man that gives to the psychological capacity a certain amount of flexibility or capacity of framing new combinations of reaction which is at the bottom of the Darwinian theory."

FACTORS UPON WHICH THE DEVELOPMENT OF LANGUAGE DEPENDS.

In studying the periods of the language interest of children, three periods have generally been recognized in child-study literature which correspond very closely to the periods of physical growth on the one hand and to the development of certain psychical activities on the other.

The studies of Dr. Burke on the general growth of children, and Vierordt, Boyd, His, Meynert and others on the development of the central nervous system show that the first period of accelerated growth occurs during the first year of the child's life; that there is a period of gradual decrease in the rate of growth from the first to the sixth or seventh years in girls, and seventh or eighth years in boys; and another period of accelerated growth from about ten years in girls and eleven in boys, to fourteen in girls and sixteen in boys. With each of these larger waves of growth there are lesser fluctuations of development peculiar to that period, such as the development of the general nervous system, awakening of the special sense-organs, muscular co-ordinations, organs of expression, and the like, which lie at the foundation of the growth and changes in language.

The second or psychological factor upon which the growth of language depends is the instinctive tendency to imitate. As Mr. Darwin says: "I cannot doubt that language owes its origin to the imitation and modification of various natural sounds, the voices of other animals, and man's own instinctive cries, aided by signs and gestures." And Tarde maintains that imitation plays the same rôle in the psychic life that heredity does in the organic life or that vibration does among the inorganic bodies, and that language itself is the "great vehicle of all imitation."

Psychologists who have treated imitation have generally recognized this tendency of the soul either as an instinct or as an ordinary sensori-motor reaction which finds its differentia in

the peculiarity of its muscular discharge, which Baldwin calls a "circular activity;" that is, there is a tendency of a reaction to repeat its own stimulating process. The child continues to repeat the movement he has found efficient in producing an interesting result, the germ of which, as Professor Baldwin has shown, lies in ideo-motor suggestion.

Three distinct periods of imitative movements have been observed in human development. During the first months of life, the 'organic' reaction occurs which tends to repeat its own stimulation, such as muscular contractions that have become habitual. This belongs essentially to the simpler sort, and is only an approximate imitation. It is psychological only in that there is a sensori-motor suggestion, the infant's reaction may not even approximate the copy or make an attempt to repeat or improve by a second trial. This form of imitative reaction, perhaps better biological adaptation, plays an important rôle up to the eighth or ninth month of the child's life. The second period begins in the latter half of the first year and is especially intense during the second and third years of life. It is the psychological or conscious phase; when it appears it is the predominant activity of the mind. "The copy," says Professor Baldwin, "becomes consciously available in two ways: first, as sensation, the individual seeks to reproduce the sounds heard or the movements seen; and second, as memory, by which the copy is recalled and reproduced again and again." Lloyd Morgan has summed up this period as follows: "the intelligent stage of the profiting by chance experience. Intelligence aims at the reinstatement of pleasurable situations and the suppression of those which are the reverse."

But there is still a third period of imitation and imitative reaction. While in the first period the reaction is principally in the realm of the unconscious, in the second period the reaction is repeated in a try-try-again manner until great exactness is acquired; in the third period the imitator becomes an artist. For close in the wake of imitation there comes the imagination, and imitation becomes not merely reproductive but productive as well, and its development may be observed in the periods of co-operative play, of popular fads, and of dramatic and artistic effects. Imitation now changes from the reproducing of an objective copy to the reproducing of a subjective model or ideal.

THE PERIOD OF INFANCY: OR THE PRIMARY PERIOD OF LANGUAGE DEVELOPMENT.

When we turn to a consideration of the language interest itself, we find that all observations of child language point with irresistible force to the conclusion that there are periods in which the "language-making instinct," as Mr. Horatio Hale

(30) calls it, is especially strong. In tracing the curve of development it falls into line with the curve of the general physical and mental growth.

I. The first or primary period of language is, of course, the period of the learning of the mother-tongue, and extends from birth, the time of the reflex, expressive movements of the cry to about the middle of the third year, under normal conditions, when the child is able to express its thoughts by the use of the conventionalized symbols.

II. With the increased power of the imagination, there may be observed a second period of the language interest, extending from the third to the eleventh or twelfth years. This is essentially a period of play upon language—sounds, words, and sentence-structure have been mastered as an instrument of communication—but now there is an added interest which centres in the sound of the word, or its rhythmic combinations with other sounds.

III. There is still a third period when the language tide rises, and that is during the years of adolescence, constituting what Miss Williams has called "a second day of grace for those who, perhaps through no fault of their own, have failed to properly improve the first."

I. THE PRIMARY LANGUAGE PERIOD.

It has generally been recognized that the child passes through three distinct periods of development in learning to speak its mother-tongue. Lindner (47, p. 3) has given the following general classification of the expressive movements of infants: 1. The period of expressive movements, gesture, or sound, expressing states of emotion without the purpose of communication; 2. The period in which the child begins to understand the meaning and purpose of language, but has not yet developed the power of speech co-ordinations to enable it to express its thoughts and feelings by means of articulate sounds; 3. The period in which the child develops those co-ordinations which enable it to express its thoughts and feelings by means of articulate sounds.

Kusmaul (45a, p. 47) has classified the periods from the point of articulation: 1. The period of primitive sounds, the purely reflex which have a much larger range than the adult phonetic alphabet; 2. The period of imitative sounds; 3. The period of thought expression. If we turn to the mental stages of linguistics with Oltuszewski (59), we may recognize: 1. The primitive period characterized by the reflex pain phenomena of early sounds; 2. The period of the development of the linguistic memory centres, the auditory and motor memories; 3. The period of the association of ideas with words.

I. THE PERIOD OF EXPRESSIVE MOVEMENTS.

First Period—The reflex and Automatic Period. Lindner (47) speaks of this first period of the child's life as the physiological step of language development. The physiological development is significant. The organs of respiration and articulation are still rudimentary in their development. The sense-organs become adjusted during this period to receive the stimulations from the external environment, and the brain centres begin to function.

On the side of impressions, the experiments of Kussmaul, Gensmer, Kroner, Preyer and others go to show that children respond to the stimulations of taste, touch, and smell at birth. The observations recorded show that the eye is sensitive to light on the first day of life, and that the ear is sensitive to sound several days later. By the close of the second week, passive attention makes its appearance, and the child begins to stare at objects of light and to listen to sounds; and several weeks later, it can be soothed by the sound of the mother's voice.

On the side of expression, there are present at birth the reflex muscular movements which are not entirely undifferentiated and unco-ordinated in the cry. Perez (61, p. 11) observed that pre-established association between certain movements and certain sensations, agreeable or otherwise, can be seen at birth. The vague incoherent movements of the arms, legs and facial muscles, which young babies make, as if trying to escape from the pressure of their clothes, or struggling against some painful state of their system, all belong to the first class of indefinite reflex actions. These automatic movements early differentiate into expressive movements—the smile and even laughter have been observed in infants during the fifth day—"perhaps without intention or sentiment of pleasure, and simply the result of chance action of the mechanism."

By the end of the fourth month, the child is able to control its expressive movements to such an extent as to enable it to turn away its head from disagreeable objects or remove the objects with its hands. These early movements lie at the foundation of all sign and gesture language, and they become the more significant when they accompany vocal expressions. The child's first utterance is a cry of distress. This has been variously interpreted by interested spectators. To Semmig it sounded like "heavenly music;" to Kant it appeared "a cry of indignation and of wrath;" to others still, a "lament over the sin and misery of this world." "But," says Preyer (65, p. 211), "these interpretations go to wreck upon the repeatedly established fact that new-born children without any brain at

all cry out, and many a healthy new-born, as Darwin reports, does not cry, but sneezes." As recognized by psychologists to-day, the first cry is an expirational reflex, caused by the pain sensations accompanying birth, the sudden change of temperature, and other tactile sensations. There is a production of a current of air which passes in its early stages unmodified by the vocal organs, and consequently the sound is undifferentiated in character. The same tone, pitch, and quality of voice serves to express the child's emotional states. In either case, whether it is a cry or a sneeze, the utterance is purely a reflex movement and occurs as a physiological process rather than a psychological directed by consciousness. Very soon, however, Preyer observed it during the first week of life, this undifferentiated reflex begins to take on a language character; and begins to serve the child as a means by which it can express its emotional states. Discomforts, as hunger, thirst, cold, wet, and pain, produce different reactions; consequently there is a differentiation of the expressive sounds. The cry of pain and fear becomes short and explosive; the cry of hunger, a long drawn out cry of pain interrupted by frequent pauses. The tone of voice also passes through several stages of evolution. As has been shown by Garbini (24, p. 53), the first cries (reflex) are weak and without individual tone; but all tones, from the deep chest tones to the strongly nasal ones, may be heard. After the first two months, the voice appears, and settles usually in a clear falsetto.

(1). *Early Differentiated Cry.*

Experienced nurses and mothers can early interpret the variations of the cry, which the child itself may not hear, and administer to its wants accordingly. The child, on the other hand, soon becomes conscious, in expressing emotional states, of a mechanism by means of which it can gain certain wants, and as soon as it has made this discovery, it employs the modifications of the vocal utterances as a vehicle of communication. "Herein," says Von Frenzel (22, p. 28), "lie the most primitive combinations of the various speech centres; and it is here that we must seek for the beginning of the development of speech."

Observers generally agree that the expressions of discomfort precede, in development, those of pleasure or comfort. Mrs. Moore (57) sums up her observations upon this period as follows: "Feelings of discomfort were felt at birth, but not distinguished one from another, they were strong. Pleasure was not felt as much at birth. Movements directed toward the attainment of comfort replaced in a measure the mere expression of discomfort. After the growth of desires, development pro-

ceeded rapidly, in response to a demand for the satisfaction of them."

M., 1st week. Above all, crying is characteristic: it is piercing, and persistent in pain, a whimpering in an uncomfortable posture, uninterrupted and very loud in the cold bath. When the child cries for hunger, the cry is interrupted by frequent pauses, the eyes are generally closed tightly, the tongue drawn back and spread out.

F., 16th week. We can distinguish the sounds for hunger, sleepiness, anger, and joy at four months of age. On the whole, there are but two kinds of sounds which are unmistakable,—the one denoting feeling of discomfort or pain, the other a feeling of comfort and pleasantness.

M. By the ninth week, one could distinguish the hunger-cry, the cry of pain and impatience, and one of appeal, which was used when, after crying from hunger, he saw his mother approaching his bed. In the eleventh week he added a mingled cry of pleasure and impatience by which he greeted the appearance of his dinner. In the nineteenth week, when accidentally hurt, he cried in a way to show plainly that not only his body, but his feelings, were hurt.

M., 1st day. When uncomfortable the child cried.

10th day. Tear secretion observed for the first time.

17th day. Fretting, a sort of cry, expressed discomfort.

55th day. Displeasure indicated by hard crying and rigidity of the whole body, which was so complete that if taken by the hands he could be raised to his feet without having bent the vertebral column or limbs.

12th week. The child cried "*eng*" when hungry, and "*Mä-ä-ä*" when hurt.

M., 6th week. In the sixth week (36th day) the child laughed in response to his mother's crooning, and the following week he responded to it with his first word, "*goo*."

M., 5th week. The sensibility to sound has increased to such a degree that the child seldom sleeps in the day time if any one walks about or speaks in the room.

14th week. Refusal expressed by "*nannana, nānā*."

16th week. Unpleasant feelings expressed by predominance of the *ua-ua, ua*.

7th week. To talking and singing he replied by cooing.

Von Frenzel cites a case where a child of two months expressed comfort and discomfort by different modifications of the vowel *a*.

M. From the fourteenth week loud or high pitched voices caused him to draw down the corners of his mouth and cry. When his mother said sharply to him, "What *is* the matter?" he cried piteously.

F., 24th week. The vocal organs now begin to assume some power of control over the sounds produced, resulting in the well-known "*coo*."

F. In the eighteenth week, and before, the following cries were distinctly recognizable,—discomfort or distress, anger, sleepiness, and a cry for needed attention.

(2) *Spontaneous Babblings.*

By the close of the second month of life, considerable progress has been made in muscular co-ordination and control of the tongue and lips. Attention and memory have made their appearance, and the child begins to take delight in vocal babblings, the practice field of linguistics, with a marked increase in the number and variety of articulate sounds. Mrs. Moore

(57) observed that by the close of the fourth month her child had made nearly all the sounds which occur in the language. "Yet," she says, "I had the exact record of but few which had been pronounced as isolated sounds, or as short syllables, and so distinctly as to render their identification easy and certain." And Preyer (65, p. 107) found it still difficult to recognize definite syllables among the more varied utterances in the ninth month of the child's life. But he found the voice although loud and inarticulate at times already modulated and expressive of psychical states.

As Tracy (81) and Lukens (49) have shown, and Meumann (54) and Ament (1) later, the vowel sounds appear first as differentiated sounds, and long before the sixth month the primitive vowels are combined with one another and with consonants. The labials *b—p—m* appear first and as initial sounds. To quote Meumann (54, p. 11),—"In the development of the child's spontaneous babblings, a definite process may be observed. It begins with the vowel sounds, especially with *a* and *ä*, and several others difficult to describe. Then appear the consonants in combination with vowels, in the order of labials and dentals, but often the more difficult gutturals appear early in the stage."

M. By the twelfth week he began to use his tongue which had hitherto moved but little in his mouth. Thereafter there was a rapid increase in the number and variety of sounds made by the child in crying and babbling.

29th week. "*Bob-ba*" indicated comfort; "*Mom-ma*" indicated hunger; singing noise made by the child meant contentment.

F. In the seventh week, for some days, she experimented with the tongue a good deal, putting out and withdrawing the tip through pursed lips. In the eighth month, she returned more intelligently to this, and from time to time during the month had a habit of running out her tongue and moving it about, feeling her lips and trying its motion.

F. Began to use the *googly-goo* language suddenly in the fifteenth week; also made vowel sounds alone.

M., 7th week. No account of the infant's babblings was kept aside from the fact that in his very early days he "talked back" with the word "*goo*," which later changed to "*gagoo*," and that in the fifteenth week he often amused himself by making a continuous sing-song tone.

M., 52d day. From this day the child began to express his feelings of pleasure by babblings which were just like those of his sister—*ärrä* or *arra*. The babbling increased according to his physical comforts.

54th day. The child entertained himself for over an hour.

F., 59th day. Louise began to babble on the 59th day.

9th month. The complex combination of movements of eye, larynx, tongue, lips, and arm muscles appears more and more.

There occurs at this time also a rapid development in the recognition and discrimination of sounds. Of the thousands of words, says Ament (1, p. 35), which have been hurled at the

child during its early months of life, all have fallen unheard and uncomprehended until finally the soul catches, not only the general tone, but also the finer distinctions in the sound of its mother's voice, which begins to carry with it a meaning. This power of discrimination arises during the middle of the first year. Miss Shinn and Mrs. Hall observed it first during the fifth month of life. And there may also now be suggestions of sound imitations.

F., 5th month (137th day). I was hoarse with a cold and when I spoke, the baby looked and listened in a way that I thought showed a sense of something unusual about my voice. At this time I often read softly to her mother as she nursed the baby and sang low to her meanwhile. On the 148th day, as I did this, the baby suddenly raised her head and gave me an inquiring look, evidently for the first time distinguishing our voices as two separate sounds.

M., 5th month (140th day). The recognition of the mother's voice was the first positive evidence given of recognition of a definite sound. The child soon knew his own name, or at least knew when he was called; but it required three calls to induce him to turn toward the sound. At the first call, a change took place in the facial expression; at the second, he laughed; and at the third, he turned toward the speaker.

F. In the twenty-second week, I noticed her opening her mouth and making a funny sound in her throat, and after experimenting was convinced that she was trying to imitate my way of saying "ba-ba" to her. Twenty-eighth week she still tries to imitate "ba-ba," and likes to hear the prolonged sound of *sh*, a clucking sound, a smack, and the dripping or running of water.

2. THE PERIOD OF ARTICULATION.

(1) *Imitative Sounds and Babblings.*

While there is no hard and fast line of demarkation between the first and second periods of the development of the mother-tongue, the first period is essentially one of physiological adjustment with its reflex and automatic sounds and movements, while the second is marked by an accelerated mental development; first, by the development of the language memory centres (auditory and motor memories), and second, by the increased tendency to imitate the sounds and movements which issue from the environment.

The child now develops an articulate language with the same natural facility that any other species of animals does the vocal utterances peculiar to its kind, and takes special delight in uttering the onomatopoeic sounds which as yet have no meaning to it. The range of the sounds embraces, not only the articulations of the mother-tongue, but also those of other languages, since, as Ament (1, p. 34) says, the child's mouth is still unbridled, and the vocal organs can move in any manner with equal facility. This practice upon the "raw material of the language," as Taine calls it, passes along quite a definite

line of growth. And Meumann (54, p. 7) has traced it from the spontaneous impulse to utter sounds, inarticulate and unintelligent, to the voluntary expression of articulations expressing thoughts and emotions.

This is the period which embraces, according to Dr. Tracy, the second six months of life—the child makes rapid strides in the imitation of sounds and in the comprehension of the meaning of words and gestures. It understands many words, but uses very few of them; it delights in the stimulations of rhythmic sounds and movements. It also knows the members of the household and recognizes their names, as well as parts of its own body.

While simple imitation may have appeared during the early months (Preyer observed it at the age of three or four months), conscious imitation first appears between the seventh and the ninth months of life, after the child has learned to use its senses, and after the memory is well developed. When conscious imitation does appear, it for a time takes possession of the soul, and is the predominant activity. The observations upon child-language development put new meaning into Mr. Burke's words when he said, "It is by imitation far more than by precept that we learn everything; and what we learn thus we acquire not only more effectually but more pleasantly." The child now plays constantly during its waking hours, not only upon the sounds which it hears, but it imitates the intonations of the voice and gestures as well.

M., 7 months. Immediately after seeing his grandfather emit a short, quick breath, he did so. He then imitated a cough, shrugging of shoulders, and other motions. On the following day he imitated silent lip-motions, and silently imitated the lip-movements which accompanied vocalized words.

F., 5 months. Baby Florence, when five months old, imitated very closely the growling of a pet dog, and at six months associated the name by growling when asked what Bonnie did.

F., 12 months. Always keeps time by moving her hands up and down whenever she hears any quick music.

M., 8 months. He waved his hand "bye bye," imitating another child.

F., 9½ months. She imitated closing the hand on three different occasions, and a week afterward she imitated movements of the lips, and certain sounds, as *pa*, *ma*, etc.

M., 10¾ months. One day his mother snapped her fingers. He listened attentively to the noise produced. Then he clicked his tongue against the hard palate, and the result was a sound almost exactly like the one produced by the fingers.

M., 9 months. He began to repeat a sound of his own upon hearing it uttered by another person.

M., 7½ months. Very early in the imitation stage, the lip-movements accompanying such words as "*mamma*," "*papa*," and "*bye-bye*," were repeated. Two days later, in response to a lady's farewell, he imitated both gesture and word.

M., 36 weeks. He acquired the habit of repeating a sound of his own upon hearing it uttered by another person.

42 weeks. Intentional, but unintelligent, repetition of syllables and words. These syllables were strung together, and were uttered with great rapidity, producing a chatter which, in its tones and inflections, bore a striking resemblance to conversation.

M., 44 weeks. In the eleventh month some syllables emphatically pronounced were for the first time correctly repeated. I said "ada" several times, and the attentive child, after some ineffectual movements of the lips, repeated correctly "ada," which he had for that matter often said of his own accord long before. It was the first *unquestionable* intentional sound imitation. The same day, when I said "mamma," the response was "nanna."

F., 22d week. Tries to imitate "ba ba" which had been repeatedly said to her.

M., 9 $\frac{1}{4}$ months. When told to wipe his nose, he slowly took the handkerchief from his mother's hand and obeyed, in imitation of what he had previously seen and experienced. The barking of a dog, the mooing of a cow, were imitated, as were other sounds previously heard.

M., 9 months. The child distinctly imitated the intonation of the voice when any word or sentence was repeated in the same way several times.

M., 11 months. Intentional sound-imitation appeared on the 329th day.

F., 9th month. She does a great deal of talking after her kind. It is not the syllable exercise of some weeks age, but a conglomeration of sounds.

(2) *Understanding of Words.*

By constant repetition of the differentiating sounds, which the child soon intellectualizes, the articulate sound or word changes from its early nature, in which it expressed merely an emotional state, to a second nature in which it becomes an expression of an object of thought. This is the first step in the independent and intelligent use of language. The hitherto spontaneous utterances now begin to suggest to the mind definite facts in the world about it, and the child pushes out into a new world of thought and the communication of thought by means of symbols. While there are large individual differences in children as to the time when the understanding of words begins, yet from the observations which have been made, it occurs, in general, during the second quarter of the first year of life, and the time when the first words are used is between the eighth and tenth months in American children, and somewhat later in German children.

As will be noticed in the observations, there occurs a period of several months between the time when the child first begins to understand the meaning of words and when it is able to use them in expressing its own thought. The few sounds which have a speech value to the child are strongly marked by intonations and supplemented by gestures. Desire, hunger, joy, and fear may be expressed by the same word, but with a difference in modulation and gesture setting. Preyer observed

eleven different meanings of "atta." The writer himself observed seven different meanings of the syllables *tī-yī*. This is a long and an important step in the language development, since it marks the time of association of the object with the word, and also the time of voluntary control of the motor-speech-centres, which enables the infant to produce the correct sound at the time when wanted.

M., 18th week. No evidence was given before the eighteenth week that words conveyed any idea. But when the child looked toward the speaker at the sound of his name, "Albert," and into the mirror at the word "baby," he must have had some idea as to the meaning of the words.

M., 24th week. The words "dinner," "mamma," and "papa," were next comprehended.

F., 28th week. In trying to call attention, she says "a?" or coughs once or twice. When she wants something, when not distressed, she says "Mammam," or "bapbap" over and over. Of course these do not mean *mamma* or *papa*, for she does not know these words.

M., 38th week. He began to associate a few words with persons and objects.

M., 18th week. The child looks about the room when his mother asks, "Where is papa?"

M., 20th week. He was carried daily to a clock and had the word "tick tick" pronounced for him; sometime later, while lying in his bed, the word "tick tick" was pronounced loudly, whereupon he looked toward the clock.

M., 14th month. The child, standing erect, being held by the hand, was asked, "Where is your clothes-press?" whereupon he turns his head and his gaze toward the clothes-press, draws the person holding him across the room, and opens the press.

F., 24th week. I am perfectly satisfied that my baby-girl understood the word, "mamma," on her 164th day.

F., 11 months. Her understanding of speech had grown wonderfully, and as she was docile in obeying directions, I could always find out whether she knew a thing by name, by saying, "Point to it!" She knew 51 names of people and things, 28 action words, and a few adverbial expressions, like "where," and "all gone,"—eighty words in all, securely associated with ideas.

F., 8 months. There are indications that she understands when I say, "Where's Daddy?" or "Where's Rachel?"

(3). *Language Retardation.*

There occurs at this period, during the last quarter of the first year and the first quarter of the second year, a time when the development of language may be retarded, or the child may even lose some of the words which it has acquired, due to teething and learning to walk. This is especially marked if there are complications which drain the physical energy or direct the attention along other channels. Lindner reports that during the two weeks from the 37th to the 39th weeks of the child's life there was no growth in language due to the suffering from teething. Another observer reports that when the baby was learning to walk, during her 10th, 11th, and 12th

months, she did not talk as much as before. When she was sick, she talked very little, which caused an arrest in language development. If, however, the child learns to walk with little difficulty it does not interfere with learning to talk; but it may even have a stimulating effect since it extends the infant's realm of experience.

"Walking was commenced," says Professor Jegi (43, p. 24), "in the 14th month. It did not seem to interfere with speech in the least, due, I think, to the fact that G. took to walking almost in a day, and never again reverted to her former more awkward mode of locomotion. These two impulses, walking and talking, so important in childhood, manifested themselves at the same age; but since walking was mastered so quickly and with apparently little conscious effort, the mere ability to walk seemed to exert an exhilarating influence on all mental activities, and thus stimulated the speech centres as well. The acquisition of new words was clearly accelerated." Dr. Triplet observed that, while there was no increase in weight between the 21st and 26th weeks, there was a rapid development of the mental activities.

3. THE PERIOD OF INDEPENDENT USE OF LANGUAGE: OR SPEECH CO-ORDINATIONS.

"In the evolution of language," says Major Powell (64, p. 3), "the progress is from a condition where few ideas are expressed by a few words to a higher, where many ideas are expressed by the use of many words; but the number of all possible ideas or thoughts expressed is increased greatly out of proportion with the increase of the number of words." This growth is especially evident in the child during the second and third years of life, when it learns the independent use of its mother-tongue. Three distinct steps have been observed in this process. (1) The stage in which the sentence-word supplemented by the aid of gestures is employed in expressing the feelings and thoughts; (2) The stage of the sentence without inflections; (3) The stage in which the various "parts of speech" with their inflections appear. Beginning at about twelve months of age, when the vocabulary embraces but a few words, which are uttered at intervals, the curve of acquisition of new words with distinctness of pronunciation rises slowly to the age of fifteen to eighteen months, when, in general, there is an increased rapidity from a score of words at fifteen months to as high as fifteen hundred at thirty months.

F. After her 18th month birthday, the child's progress became much more rapid, and it would not have been possible to take down all her new words without giving much more and more continuous attention than I had at my disposal. The vocabulary is increasing

fast and almost any word proposed to the child is imitated with some real effort at correctness.

F., 15th to 17th month. Great progress is made; the child has learned to walk and even to run. She is gaining new ideas every day, and understands a number of phrases, such as these: "Fetch the ball;" "Come and stand between papa's legs;" "Go down there."

M., 21 months. Makes very rapid progress in extending his vocabulary, but pronounces his words in a manner peculiar to himself.

M., 38 months. Felix was very backward in learning to speak. Suddenly one evening, it was as though the Holy Ghost had descended upon him and had poured into him the gift of speech; for he repeated everything that was spoken to him very correctly.

(1) *The Sentence-Word.*

During this stage, the words which the child employs are words expressing a want or a novel situation; they are emotional rather than intellectual, and have properly been called "sentence-words." Pollock's little girl used the expression, *m-m*, when she wanted something. Lindner's boy said *bat* for *bitte* (please). "The child," says Meumann (54, p. 31), "in the beginning does not designate the objects or actions about it, but expresses its emotional or volitional attitude toward these in its first words; it expresses its longings and desires, its pleasures and displeasures toward them." In this manner, the child early gives the appearance of naming an object. It speaks the word *wa-wa* when it means "I want a drink of water." Ament (1, p. 77) observed that the child Louise spoke the syllables, *mămmămm*, on the 206th day without definite meaning simply as a spontaneous utterance; on the 254th day she used the same expression to designate objects of food and drink, and as an exclamation in calling to her sister, and also as a negative. On the 571st day she called her mother "*mómi*;" three weeks later she called her "*mámá*." On the 615th day she discontinued the use of *mămmămm* and called all solid food "*brodi*" (bread), liquid food except milk, "*bi*," and milk, "*mimi*." The reduplication, *babab*, as Ament observed, passed through a similar process of evolution from a purely spontaneous emotional expression to an expression associated with some object of want or interest, and finally the thought element appears. On the 206th day, *babab* was a spontaneous expression without meaning and soon passed away. On the 514th day, she uttered it as an expression of joy on seeing her mother. On the 591st day, she called her father "*baba*;" later, her uncle and a picture of a prince were called "*baba*." She then called a large portrait by the same name. On the 662d day, she restricted the expression to living persons, and finally to her father. Professor Dewey (19, p. 64) gives a list of seventeen words—the vocabulary of a child of twelve months—*see there, bye-bye, bottle, door, no, no, stop, thank*

you, boo (peek-a-boo), *daw, down, papa, mamma, grandma, Freddy, burn, fall, water*, and concludes that only the four proper nouns are, psychologically speaking, names of objects. *Water* is a verb as well as a noun; *door* is always accompanied by gestures of reaching, and an attempt to swing the door; *daw* is apparently a request, an expression of expectation of something good to eat and the name of a thing altogether; *bottle* certainly has adjectival and verbal implications as well as nominal. "At present," says Professor Dewey, "I shall regard it as a complex, nominal-adjectival-verbal, the emphasis being on the noun, while six weeks previously it was, say, verbal-adjectival-nominal. 'Stop,' 'no, no,' 'burn,' 'see there,' etc., are equally interjections and verbs."

M., 29th week. *Bab-ba* indicated comfort and good feelings. *Mom-ma* indicated hunger and other discomforts.

10th month. The associations became established in the case of one word, *papa*. Representatives of the class of interjections were among the earliest words in the vocabulary.

M. The first words were interjections.

M., 9th month. The word *bye-bye* said so unexpectedly in the 9th month continued to be used until one day he refused to say it and did not again employ it for ten days, when he used it spontaneously and used it regularly after that. The next word was *boo-woo*, first said in imitation of the dog, but very soon used in answer to "What does the dog say?"

42d week. Great advancement was made in the understanding of words, but no new words were added until he exclaimed "papa," as his father entered the room.

M., 22d month. Two words only,—*papa* for *father*, and *bät* or *bit* for *bitte*—rightly applied of the child's own accord.

M., 22d month. The child uses the term *mämä* and *mö-möm* when hungry and thirsty.

M., 14th month. Use *da* to signify *that* (*das*) for the first time to express a thought.

F., 9th month. To-day for the first time baby began to say "bye-bye-bye" and to wave her hand. She did this in imitation of some one else.

F., 13th month. The first intelligent word is spoken when she reproduced the oft-repeated word, *mamma*.

F., 12th month.—*M-m* generally indicated a want of something. *Ba-ba* was (1) a sort of general demonstrative standing for the child herself, other people, or the cat; (2) an interjection expressing satisfaction.

F. Used the word, *papa*, to indicate that *papa* had come or gone; later for the person. *Minn* was used to suggest something to eat.

F., 7th month. The following sounds were used,—*mammam, bap-pap, dädä, kākä, and gägä, nänä*.

According to the anthropologist, Waitz, the unit of language is not the word, but the sentence. "Or," says Romanes, "otherwise and less ambiguously expressed, every word was originally itself a proposition, in the sense that of and by itself it conveyed a statement."

The question as to what parts of speech the child first uses

has provoked much discussion. Dr. Tracy (81) has undertaken to classify the vocabularies of over twenty children, numbering fifty-four hundred words, in order to determine the relative frequency of the various parts of speech. The average age of these children he takes as approximately two years. He gives the following results: Nouns, 60%; verbs, 20%; adjectives, 9%; adverbs, 5%; pronouns, 2%; prepositions, 2%; interjections, 1.7%; and conjunctions, 3%. Such classification, however, as Dr. John Dewey (19, p. 63) has justly criticised, is based upon the adult use of language, and consequently gives a wrong conception. Romanes (92, p. 294) calls philologists to witness the facts that language did not begin with any of our later-day distinctions between nouns, verbs, adjectives, prepositions, and the rest; it began as the undifferentiated protoplasm of speech, out of which all these "parts of speech" had afterwards to be developed by a prolonged course of gradual evolution. "*Die sprache,*" say Schilling, "*ist nicht stückweis oder atomistisch; sie ist gleich in allen ihren Theilen als ganzes und demnach organisch entstanden.*"

It is out of this undifferentiated language protoplasm—the sentence-word—that the rigid conventionalized forms, or parts of speech, rise. We have several continuous observations of children's vocabularies which enable us to study this process of differentiation somewhat more in detail. The early expressions are of an emotional nature and are furthermore, as we might expect, associated with the vegetative or nutritive function. Just as the early movements of the legs and hands are mouthward, so also the early expressions of the voice express the nutritive properties of objects in which the interjectional-nominal element is present though undifferentiated, hence it is possible, as observers have done, to classify these as nouns or as interjections. Or, again, the verbal element may be prominent in the form of a wish or gesture. This view is further strengthened by the studies of philologists who have studied the evolution of parts of speech in the race. Professor Whitney says: "The interjections are not in the same and proper sense parts of speech; they are, rather, analogous with those all-comprehending signs out of which the rest have come by evolution. A typical interjection is the mere spontaneous utterance of a feeling, capable of being paraphrased into a good set expression for what it intimates; thus, an *ah!* or an *oh!* may mean, according to its tone, 'I am hurt,' or 'I am pleased.'" Or, the infant may say, "Mum," "I am hungry;" "bup," "I want some bread and butter." It is the same psychological fact that takes place when the African negro cries out in fear or wonder, "Mama! Mama!": according to Lindley Murry, he is simply calling, grown up baby as he is, for his

mother; or the Indian of Upper California who, in an expression of pain, cries, "Ana!" (mother). These interjectional forms are, psychologically speaking, interjectional-nominal or interjectional-verbal or interjectional-nominal-adjectival-verbal, etc. Ament (1, p. 163) has classified the early sentence-words of the child which he observed and found that the different categories of language are present in embryo in the *sentence-words* which the child uses. Thus, the child pointed and said: *Weg! Weg!* (Gehe weg!) Go away! Interjectional. *Medi!* (Siehe das Mädchen!) See the girl! Substantive. *Baf!* (Babette ist brav!) Babette is brave! Adjective. *Dudu?* (Was thust du?) What are you doing? . . Pronominal. *Waschen* (Babette thut waschen) Babette is washing. Verbal-Infinitive.

Knidi (Knie dich) kneel. Verbal-Imperative. *Auf* (Das ist auf) That is up. Adverbial. *Mid* (Ich will mit dir) I want to go with you. . Prepositional.

Children in whom the mimetic impulse is less strong often take a rest at this stage of development, when they have learned to make their wants known by the sentence-word. This serves as a practice stage of motor-co-ordinations and thus prepares for the more complex period about to come. Mrs. Moore observed that from the fifty-second to the eighty-second weeks, words were added very slowly to the vocabulary. Though the child talked a great deal, he made a few words, chiefly nouns. After the eighty-second week, the acquisition of nouns proceeded at a rapid rate. The studies of children's vocabularies will show that the "parts of speech" which first become differentiated are generally substantive;—names of articles of food, members of the family, pets, parts of the body, etc.; but these are not isolated as was shown above; on the contrary, they are combined with the indicative gestures which express the verbal idea. "The objects," says Mrs. Hall, "are seen as a whole without regard to either qualities or motion; hence the early appearance (45th wk.) and great preponderance of nouns. Action being the most attractive feature of an object, that was noticed next in order, and verbs were introduced to express it (48th wk.)." Then next in order there appear the adjectives and adverbs; later, pronouns, prepositions, and finally conjunctions.

(2) *Sentence Without Inflections.*

The looseness with which the child's early words are thrown together indicates something of the thought structure,—the chaotic confusion and often bewilderment which exist in the child's mind. The age at which the first sentence appears varies considerably, but in general it is between the eighteenth

and twentieth months. The first attempt at sentence building consists frequently of compounding substantives, or combining a substantive with a verb or an adjective, both words expressing a vivid experience to the child. H., twenty-four months, when riding in the cars, was suddenly thrown by the stopping of the train. She looked confused and was told that "the car stops;" immediately the child picked up the expression, *car dops*. She had used words before for several months, but this was the first attempt at sentence building. Sully observed the first sentence, *Papa no* (Papa's nose). In case the sentence consists of a substantive and a verb, the verb is generally in the imperative form; as observed by Sully "Mamma tie." (Tie gloves.) There is no definitely assigned order of the words. Humphrey (61a, p. 12) observed that order was quite immaterial, and the child might say, "Julia broke doll," or "Julia doll broke," or "Broke doll Julia." These are the mountain peaks of language which make their appearance in the mist, and indicate the dawn of growing intelligence. The negative expressions of children further illustrate sentence structure. There is a peculiar form of expression in which the child expresses a thought in the form of an indicative or an exclamatory sentence; and then tacks on the negative; as, "*Henny go Papa—No.*" (Can Helen go with Papa? No.) She asked the question and answered it without a pause. Another form of spontaneous sentence has been observed by Professor Sully (78, p. 175) which is characteristic of this early period in which there is an antithesis under the form of two balanced statements. The child opposes an affirmative to a negative statement as a means of bringing out the fuller meaning of the former. Sully gives the following example: Boy C. would say, "*This-a-nice-bow-wow,—not-nasty bow-wow.*" In this case the habitual form of sentence is followed in rapid succession by another, a negative, situation of which the child was not conscious at first. One may even observe a look of disappointment with the negative which was not present in the mind during the first statement. "This use of the negative statement by way of, or opposition to, an affirmative," says Professor Sully, "grew in the case of one child, aged two years and two months, into a habit of description by negatives."

M., 23 months. Begins to put words together. Coffee-bean, which before was called "bean," now becomes "ka-boinen."

M., "*Papa-a-ng-i bich.*" "*Papa schreibt Briefe.*" (Papa writes letters.)

"*Olol-Job-ä—Rudi—Siki—haja*" "*Olol and Job are bad (names); Rudi and Siki good.*"

M., 11 months. The first sentence, *Papa gone*, though first repeated after his mother, was from that time used independently.

M., 14 months. *Papa—shoe—black-box.* (Papa blacks his shoes on that box.)

M., 16 months. *Pony—horsie—pony; boy—walk—Anna—walk—pony.* (Albert had a ride with a pony, a little horse, boy and Anna walked; but Albert had the pony.)

M., 17 months. *Mamma—hand—in—the—water.*

F., 21½ months. There is now a distinct advance in constructive power. Substantives and adjectives are freely put together. *Kabz—dati—klam—klin—.* (Cab's dirty, perambulator clean.)

M., 15th month. *"Papa gone."* *"Ama rsh?"* (Grandma, where is she?) *"Man—cow."* (a man on a horse) *"Mamma—a—man—bottle!"* (Mamma, see the man with bottles!) *"Sit down!"* (You sit down) *"Brush—hair."* (Brush my hair.)

M., 11 months. *"Papn—in."* (The bread is gone.)

M., 17 months. The child has associated *ot* with hot substances, a something steaming. A month later, he was placed before Guildo's *Aurora*, and exclaimed "ot." He meant the clouds which, in his metaphorical mind, represented steam.

F., 20 months. *"Lulu—dai."* (Lulu ist da.) *"Lili—alden."* (Willie halte mich.)

"Run—away—man." (The man runs away.)

"Out—pull—baby—pecs." (Baby pulls or will pull out the spectacles.)

M., 3rd year. *"Mimi alla teppa pappa oi."* (The milk has gone on the carpet, and papa said 'Fie'.)

F., 16 months. *"Mos—ky—baby—shee."* Shouted with joy at going out to see the moon.

M., 15 months. *"Blow—lady—down—floor."* (The wind blew down a picture.)

"Mamma—broom—corner—sweep." (Saw a broom in the corner.)

F., 17 months. *"Mama—welche—appelchen—kaufen."* (Did mama buy apple for Alec?)

M., 26 months. *"Fallen—tuhl, bein—anna—ans."* (Fell against the chair leg upon which Anna sat.)

F., *"Baby—have—papa (pepper) no."*

French child. *"Papa—non."* (It is not Papa.)

3rd year. *"N (his own name) go in water, no."*

F. *"Bov (the name of her cat) dot tail; poor Babba dot no tail,"* proceeding to search for a tail under her skirts.

(3) *The Sentences with Inflections.*

The inflected forms of the sentence appear in the same recurring sequence that obtained in the differentiation of the parts of speech. Lindner's boy expressed plural number first during the 22d month. A month later he distinguished between *zwei* and *viele* (two and many). Mrs. Hall (34) observed the idea of number as early as the fifteenth month, and Ament (1, p. 166) observed distinctions in gender, number, and case as early as the twentieth month; in nouns and pronouns, as early as the eighteenth month, when the child spoke of herself in terms of the second person, *du* (you), and two weeks later she substituted the correct form, *ich* (I). In gaining command of this phase of the mother-tongue, one thing, says Professor Sully (78, p. 176), is clear,—“the child's instinct is to simplify our forms, to get rid of irregularities.” Striking examples of this are found in the use of the hetero-

geneous assemblages of different verb forms and in the use of the personal pronouns. The child reasons by analogy and the direction of the error lies often in being logically consistent. The weak form is often transformed to the strong form of verbs. The child says *scram* for *screamed*, *splat* or *splut* for *split*. Or the change may be the reverse, and say *cated* for *ate*, *seed* for *saw*; or it may join an adverb to a verb—in place of *fell down*, say *fall downcd*.

The transition which takes place in a child in passing from the impersonal state, when it is simply "baby," to the state in which it speaks of itself as *I*, *my*, and *mine*, has been recognized by psychologists as the time when there is "a real advance towards the true self-consciousness." The child begins to use the personal pronouns during the first half of the third year. Preyer observed it during the 25th months; Pollock, during the 26th; Schultze, during the 19th; and Ament, during the 21st month. Rzesnitzek (68, p. 32) has observed that the child uses the possessive *mine* first. *Your* is often substituted in place of the object itself, or to denote possession, as *your bed*. Graf von Pfeil (63, p. 5) maintains—and this has been supported by other observations—that the child first masters the pronouns denoting second person, then those denoting third person, and last of all those denoting first person.

EARLY INFLECTED SENTENCES.

M., 22 months. "*There goes two little boys.*" "*Warren's apple is good.*" "*Mamma sit down, rubbers on.*"

F., 26 months. "*A hard saucer.*"

F., 32 months. "*That tastes more better good.*"

F. "*Rock my to sleep.*" "*Yes I are.*" "*Papa do.*" The child is asked, "Are you good now?" He answers, "*Yes I are.*"

F., 2¼ years. "*Papa eated dinnie.*"

M., 25 months. "*Gut is.*" (Es ist gut. It is good.) "*Bald kommen.*" (Ich komme bald. I will come soon.)

M., 26 months. "*Ich fortgagen Fliege.*" (I will drive away the fly.) "*Ein bissel (wenig) Wasser wollt ich.*" (I want a little water.)

M., 28 months. "*Bitte, ich eine Plaume geben.*" (Please give me a plum.)

F., 4 years. "*Die (Sie) hat mich nass gemacht.*" (She has made me wet.) "*Dem Papa ihr Buch auf der Mama seinen Platz gelecht.*"

M., 29 months. The child began suddenly, of his own accord, to count his nine-pins, putting them in a row, saying with each one, "*eins! eins!*" and later, "*eins, noch eins, noch eins.*" (one more.)

F., 33 months. "*Was für hubsen Rock hast du!*" (What a handsome coat you have!)

M., "*What I'm going to do?*" (What are you going to do?)

M., 34 mos. "*No two 'tatoes.*" (Only one potato left.)

M., 3 years. "*Where did you been?*" "*Did you went down street?*" "*Look at he!*" "*She hurt she finger.*" "*What time it is?*"

F., 4 years. "*What did her say?*"

4 SUMMARY AND PEDAGOGICAL DEDUCTIONS.

We have now traced the order of unfolding of the Language Interest in children through the first period, and have seen that a child during this period employs three different languages before it settles down to adopt the language of its mother: (1) The primitive language of the species consisting of sounds and signs—This form is purely instinctive, and serves to express the physical needs, and the lower order of emotional states. (2) The interjectional, onomatopoetic language, which consists of interjection and onomatopoetic reduplications. In this form, the initial impulse of expression is strengthened by the awakening of the impulse of imitation. (3) The mother-tongue, with its differentiated articulations and inflected forms. We have seen that the language parallels the physical development in its periods of rest and intensity. An arrest of physical development or a prolonged physical strain may cause an arrest of the language development. We have also seen that the fundamental impulses upon which the development rests—the instinct of expression and the impulse of imitation—culminate during the second and third years of life, and give rise to the primary language interest. Let us now turn to some of the problems which present themselves: first, problems of development; and second, problems of training.

If we turn to the records of those philologists who have observed the isolated languages which have suffered least by contact or by alterations in condition of culture in what Dr. Brinton (8, p. 392) calls the "baby-talk of the race;" and compare with these the records of the development of child-language in its evolution of sound utterances, of combining words into sentences, of vocalic mutation, of intonation, and of placement, all of which are steps indicative of the high form of specialization of our language; and add to these the differentiation of the parts of speech with their highly inflected forms, we find many striking examples in favor of the recapitulation theory. This view also places us in a position to appreciate, in a measure, the task in which the child accomplishes in a brief period of two years in learning to express its thoughts by means of this exceedingly complex form of reaction.

The child's early utterances abound in gutturals, the unmodified expulsion of breath which is characteristic of primitive races. But when it begins to imitate the speech movements of its environment, we at once see the operation of Schultze's law in the development of labials and dentals. Again, if we turn to the growth of the sentence, we see a similar conflict, which in precocious children very often leads to confusion and arrested development. But in spite of the fact that the child lives in a highly inflected language, its early words follow the line of the

race impulse, and are onomatopoeic and reduplications. Dr. Brinton (7, p. 308), Dr. Wilson, Dr. Wallace, and others have shown that the words *ma* of the Malay, *mamma* of the Romans, *ma* of the Hindoo, *naa* of the Tahalics, and *amama* of the Esquimaux, bear a relation to the *anne*, *mama*, *bababa*, and *ma* of the nursery, and have a functional similarity. The sentence among the Chinese, Professor Sayce (70, p. 137) tells us, is summed up by a single word. The mind, he says, has not yet clearly marked off its several parts and analyzed what we may call the early communism of speech. In many of the languages of the American Indians, the substantives and verbs are undifferentiated. Thus, Dr. Brinton says, *north* in the language of the Senecas is *the sun never goes there*, and this statement may be used as substantive, adjective, or verbal; in such cases the statement is expressed as one undifferentiated vocable.

These illustrations are sufficient to show the line of development for the child, and if development is to proceed normally, the child *must be at every stage of development*—a fact which Froebel recognized over a half century ago—*wholly what this stage calls for*.

When we turn to the matter of training during this first period, we find two classes of parents. There are those who, as the reports and returns show, belong to the more ambitious, and believe in putting the infants through a carefully planned course of voice culture. One observer reports that she took the infant of ten months, placed it upon her knee, and daily pronounced a certain number of sounds for the child to imitate in order to develop a soft and musical tone of voice. Another mother reports a typical case when she said: "Olive began to talk at seven months—she could say many words at eleven months. She was kept talking on all occasions, because she was thought to be a phenomenal infant. At last nature rebelled, and for one-half year she never attempted to say a word; when she began to talk again, the liquid baby prattle had grown harsh and awkward. *Papa*, one of the first words she ever said, became *baba* at two years of age; and not until she was five could she sound *k* and *j* in *kitty* and *Jack* as when she was a mere baby. Physicians who examined her at the age of four said the vocal organs had been overtaxed and were injured in consequence. She picked up the sounds gradually; but the sounds which she had said earliest were hardest to regain." Another mother is reported to have addressed her son, aged twelve months, thus: "It is your duty to go to sleep when I tell you that the time has arrived. So, my son, you will lie still." In all seriousness she was exceedingly distressed when the son said, "Thaw a thweet butterpy thucking thugar out of a power." In the second class of mothers, there are those of

penetrating sympathetics, on whom the wandering eyes of the infant first steady, for whom the vacant face first breaks into a smile, and to whom the first response of crooning and nonsense syllables have a meaning of their own. It is this class who instinctively appeal to nature's methods. When a child fails to catch the radical sound of a word, it is these weak parents, says Dr. von Martius, "who, instead of accustoming it to pronounce the word correctly, will yield, perhaps, themselves and adopt the language of the child," which gives rise to "baby-talk." This universal form of language has been generally condemned. Dr. Gutzmann believes, "there is much sinning in this respect by adult persons constantly indulging in so-called "baby-talk" with children. Later, when the child goes to school and begins to notice that it is lacking in this respect, it becomes the object of mockery by other children; and this inheritance from the nursery may have an injurious effect on its speech, and even on its character and its future life." Specimens of modern "baby-talk" give proof of cases of arrested speech development without doubt due to this practice.

Boy, 3 years. "No-no nee! Tee-tee Weewie no no go out of houzie if you nee." ("Do not cry! Little Willie will not go out of the house if you cry.") "The tee-tee bow-wow nees." ("The little dog cries.")

Boy, 4 years. "Ikky haw a 'icley ha ha hitchey—hitchey 'yong 'le t'et an' hoppy on a po-po 'ickle waggy."

Boy, 2 years. "Thaw a thweet little butterpy thucking thugar out of a power." ("Saw a sweet little butterfly sucking sugar out of a flower.")

Boy, 6 years. "Mamma 'panked I."

Boy, 4 years. Called a cow "hoony," a dog "waggy," a horse a "ha-ha," a nut a "c'acker," his nurse "wow-wow," a banana a "parson."

Girl, 2½ years. "Me ee oo." ("I see you.") "Ou ah en dahi." ("You are in dressing.")

No psychological study of "baby-talk" has been made of which we are aware, and we need more observations to establish its function. If the essay of John Fiske on the Lengthened Period of Infancy has any validity, then the mothers who are unduly hastening the development in the language of infants are "sinning" against the laws of growth in forcing the higher forms of language before the lower are organized, as the second class is "sinning" in causing the lower forms of language to survive "as pensioners of the soul" beyond the normal time, thus producing arrested speech development.

The proper training lies between these two extreme points. Many observers speak in favor of "natural baby-talk," or the use of diminutives, since this form is an appeal to nature's methods and instinctively places the mother in sympathetic relation within the range of the child's language experience. The diminutives so common in child and primitive languages

follow the law of reduplications, and they are also the expressions of the tenderest emotions. Both the golden age of childhood, and the golden age of love exercise a remarkable influence upon language in the use of diminutives, and friends sometimes use this form of speech toward each other. "Mothers in talking to their children, sometimes friends in talking to each other," says Montegazza, "thus lessen themselves in a delicate and generous manner, in order that they may embrace and be absorbed in the circle of the creature they love."

If, then, the use of diminutives is a natural form of expression, as it appears to be, upon which the vocal organs are to practice for the more difficult combinations of sounds which are to be sloughed off when the step has been taken; or if that form of language expresses the emotional state better than any other, its importance from a psychological point of view as an element in training must not be neglected.

SUMMARY.

1. Keep the child in a healthy physical condition.
2. Give freedom to the movements of the organs of respiration.
3. Keep the child in a sympathetic frame of mind that its impulse to imitate may be at its best, that is, unconscious, and never call attention to errors.
4. Beyond this, science has but a single suggestion: "Let the child alone, and set it a good example" in clear and distinct articulation, in a rich language environment. The instinct of expression and of imitation will do the rest.

II. THE PERIOD OF CHILDHOOD.

The second period of the language interest extends approximately from the third to the eleventh or twelfth years. Observers have generally recognized two quite distinct periods: first, a period of continued rapid growth from three to seven; and second, a period of rest and re-adjustment from seven to eleven or twelve.

I. THE PERIOD OF CONTINUED RAPID GROWTH.

According to Wundt's general law of growth (91, p. 242), this period arises in the elements of the earlier one, and develops gradually into a new creation in comparison to it. The rhythmic, the spontaneous, and voluntary expressions possess each their peculiar forms.

Physical growth continues at a rapid rate, likewise the brain in weight and organization (Betz, Flechsig). The senses are especially alert. The vocal organs, according to Garbini (24, p. 53), grow during the third year to cause a differentiation of

the two registers, the tones become more individualized, and the first sex differences appear. From the third to the sixth years there is a well marked vocal extension of four tones for girls and five for boys.

Psychologically, this is a period of peculiarly intense activity, which, Sikorsky (75, p. 53) says, is characterized by a general development of all the activities of the soul; it is essentially a period of mental expansion when color, form, number, and space relations begin to dawn. The soul extends its boundaries from the narrower, individual self to a larger, more social self. The child has become conscious of its own body, and is able to distinguish between the *mine* and the *not mine*. But this is also a period when the external impressions tend to unify the processes of the emotions, intellect, and will into a personality, the worth of which, says Sikorsky, does not depend upon the extension and strength of the single manifestations of the soul, but much more upon the harmonious fusion of all. The child's mind, like a sponge, is always thirsty. And one of the earliest symptoms of this, the vegetative period of the soul, as shown by the study of *Curiosity* and *Interest* (33), is in seeking the acquaintance of everything and everybody. "Curiosity is the apparent, now partial, now dominant, motive in many fields." So great is this curiosity to see things that it even leads to truancy and runaway, as shown by Kline. In the field of language, this thirsting of the soul for life and experience is apparent, first, in the dawn of the Questioning Age; and, second, in the interest shown in myths, fairy tales, stories, etc.

(1) *The Questioning Age.*

This period begins gradually during the third year of life. Pollock observed the first question at twenty-three months; Preyer, at twenty-eight; Lindner, at twenty-six; and the writer observed the first question at twenty-five months. But the true age of inquisitiveness when question after question is fired off, says Professor Sully (78, p. 75), with wondrous rapidity, and pertinacity seems to be ushered in with the fourth year. Out of a total number of 1,227 cases of curiosity in children reported by Drs. Hall and Smith (33), 44.41% attempted to satisfy their mental longings by asking questions. The early and simpler forms of questions are questions of fact, of substance, action and place. *What? Where?* In these may be seen the blending of the child's observation and half-conscious process of reflection, and it turns to adults to satisfy the cravings of its mind. One observer states that while out in the field with a four year old boy he missed a butterfly which he was attempting to catch, whereupon the child asked, "Where is the but-

terfly gone to, uncle?" He answered, "I don't know." The child, looking somewhat crestfallen, said, "I thought, uncle, you knew everything." The child soon becomes conscious of the fact that objects have names, and every member of the family has its individual name, and consequently it immediately sets about to inquire the names of every individual object about it. Girl, 2¼ years. "What's this dog's name?" "What's this book's name?" "What's this pencil's name?" One feature in this fact-gleaming kind of question, says Sully (78, p. 76), is the great store which the child sets by the name of a thing. The naming of predominants (agents, objects or actions) is, according to Lloyd Morgan, the first great step of independent life in the course of mental evolution. Here is seen the germ of the child's analysis which isolates the action and object thus named and causes it to float off by its sign. "Body and mind," says Morgan, "became separable in thought; the self was differentiated from the not-self; the mind was turned inwards upon itself through the isolation of its varying phases." A sign, to use Sir William Hamilton's phrase, is necessary to give stability to intellectual progress. The second form of questions is directed toward the reason and cause of things—the "why?" This form develops naturally out of the earlier; for to give the "what?" of a thing—that is, its connections—is to give the "why?"—that is, its mode of production, its use and purpose; and it is the beginning of the soul's groping its way backward to find the origin of things. The "why?" says Sully (78, p. 80) takes on a more special meaning when the idea of purpose becomes clear. And here the anthropomorphic attitude appears; when the child learns that his own actions are controlled by a desire to get or to avoid something, the idea of the result of an action precedes and determines the action.

EARLY FORMS OF QUESTIONS.

F., 2¼ years. "What's that?" "What's in there?" "Where's mamma?" "What's mamma doing?" "What's the matter, mamma?" "What's this book's name?" "What's that pencil's name?" "Was it raining in the night?" "Will it rain this night?" "Is that papa's old hat?" "Is the moon out there?"

M. "What is this flower?" "What is this insect?"

M., 28 months. "Where is Mima?" "Where is ball?"

M., 26 months. "Can I eat those?" was asked when he saw some fruit which had been brought from the garden. *Where* is his first definite interrogative.

F., 29 months. While sitting upon the couch, she asked, "Where is the lady-bug?" (Having seen a "lady-bug" upon the window a week previous) Answer: "I suppose it has gone into its hole." "Where's the man-bug?" "Where's the boy-bug?" "Where's the girl-bug?" "Where's the stove-bug?"

M., 3¾ years. "What does frogs eat, and mice, and birds, and but-

terflies? and what does they do? and what is their names? What is all their house's names? what does they call their streets and places?" Since then he has flooded us with innumerable questions, and mostly unanswerable. "What holds the stars up?" "Where does the sun go to?" Answer: "God." "Who is God?" "Will God be along here pretty soon?"

F., "Why does it rain?" "Why is there summer and winter?" "Why is Flossie's hair curly?" "Why isn't it always sunshine?"

M., 34 months. The word *why* appeared first in a question. "Why go home? I don't want to go home." "Why is the wood cut?" "Why do you clean the flower pots?" "How is that done?"

F., 4 years. "Where does all that I eat go to?"

F., 18 years. I remember as a child asking, "Why is a table called a table and not called cheese?"

F., 18 years. I was five years old when I went to stay with a blind uncle in the country. The next morning after my arrival he took me to the Post Office. It was then I began to see things and to ask questions. "How can you see where to go?" "What made you blind?" "Why are farm houses painted white?" "What will the dog do if the cow looks at it?" "Why are farmer's fingers so fat?"

M., 3½ years. "Who made papa poorly?" "Is this a poorly gentleman?" "No." "Is that a well gentleman?" "Yes." "Then who made him well?"

F., 4th year. L. saw a balloon (toy) growing smaller from day to day. She said, "That balloon is growing smaller. The air is going out." She heard about the children's being confirmed, and asked? "Where are they confirmed? here? here?" pointing to different parts of her body, "Is the pastor confirmed as well?"

F., 2½ years. Questions of time relation: "Is it morning now?" "When is it noon?"

F. As a child, finding a hole in my shoe, I asked my father the following questions: "What made the hole?" He answered, "Why, because the walk is hard." "What made it hard?" "The tar." "What's tar?" "Something to make walks with." "What do they make walks with it for?" "For us to walk on." "What do we walk on them for?" My father was now getting impatient, so he told me it was time for me to go to bed.

(2) *Interest in Rhymes, Myths and Stories.*

Another evidence of the activity of the child's mind is seen in the intense pleasure derived from stories, rhymes, or melodies which are told to it. Professor Jegi (43, p. 243) reports that between the nineteenth and twentieth months *Mother Goose* had been read through and through scores of times. Whenever the child asked for a story, her wish was granted, and many of the rhymes and jingles could be repeated by her without mistake. She even repeated them with book in hand to other children. Mrs. Hogan (39, p. 84) records that during the third year her boy asked her to sing "Moller Goose—fol-la-three-birds." "I think," says Mrs. Hogan, "I sang it over at least two dozen times. He kept repeating, 'More!' and kept time with his finger, sometimes singing with me. When he wants me to sing, he specifies what he wants." One hundred seventy-five students sent returns based upon observation

and reminiscence in answer to the question, "When are signs of an interest in *Mother Goose* melodies, rhymes, or fairy stories first noticed?" All, without an exception, report a keen interest in children beginning during the third year, and growing in intensity with age. The interest, according to these returns, centres in *Mother Goose* melodies, rhymes and jingles in which there is movement and dramatic effect during the earlier years, and passes into the counting-out rhymes, fairy tales, and myths which predominate during the years from five to nine. The stories most preferred were *Little Red Riding Hood*, *Little Golden Hair*, *Cinderella*, *Jack and the Bean Stalk*, *Jack the Giant Killer*, *Alice in Wonderland*, and stories of Santa Claus. That there is a real passion of the soul for myths and stories is further shown in children who have been left to themselves a great deal. Under such conditions, alone with Nature, they have shown a myth-making impulse. Monteith (56, p. 208) has set down the record of a child three years of age in his family, which illustrates this passion. "It was on the bluffs of the Mississippi River," says Mr. Monteith, "she had no companions of her own age, and was allowed to ramble about the grounds alone. She was seen to create a fairy world for herself. An old stump was invested with an evil spirit named *Spunt*, another stump was the sanctuary of a similar spirit, *Nessman*. In a rock-pine cone was embodied the friendly spirit *Rock-pine*. At different trees and clusters of shrubs she located the fairy people, all known by names of her own creation,—*Mrs. Knickerboc*, *Mrs. Purple*, *Mrs. Chary*, *Mrs. Yellow*, and her deceitful son *Yelly Yellow*. These people transgressed the laws of Nature with utmost license, and were daily brought into dramatic action. Conversation was put into their mouths, and incidents, situations, and conflicts created for them." Another observer in Babyhood states (11, p. 320) that her boy never tended or caressed his doll. She was more like a puppet than a doll to him—simply a subject for his imagination to work upon; and his manner of playing with her was generally to leave her alone and untouched, and simply talk about her. "Miss Rose," as the doll was called, "has committed every possible childish fault and suffered every possible punishment," says the mother; "she has steeped herself in crime of a more serious nature, such as murder and arson; she has visited foreign countries; she has been rescued from burning houses; she has married many times; she has been in prison; she has been an actress, and even a cannibal. She lives in a certain Pigtown-ville where most of her adventures occur."

The imagination of children has carried them farther than this. Mr. John Fiske reports a boy four years old who conceived the snowy clouds of nooday as white robes of angels

hung up to dry; and a girl who asked whether she must take a balloon and go to the horizon and climb up to the sky to reach the place where God lives. Another observer states that his boy three years old wanted to climb to the sky, break a hole through, and sit in God's lap.

INTEREST IN STORIES.

F., 19 years. As far back as I can remember, I have always had a great love for story-telling. When about three years old, I lived near a large pine wood. It was my great delight to have my older sister take me into the wood, on summer days, and tell me stories. She always had something new to tell me. After once hearing them, I could repeat them, and it delighted me to think about them.

F., 20 years. When a little girl, I could sit and listen for hours to the stories mamma told me every evening. Sometimes it was a nursery rhyme, sometimes a story of the Christ Child. It was a severe punishment to have her refuse to tell it when I had been naughty during the day.

F., 20 years. When a little child I was very imaginative, but did not use my imagination to any great extent in story-telling. I used it to protect myself from some punishment or trouble.

F., 18 years. When I heard the story of *Jack the Giant Killer*, I thought it was a beautiful story. I thought the giants as big as trees, and believed that they still lived in forests.

F., 21 years. One Christmas I received a large doll. The same day my playmate showed me her doll. I said, "Oh! my doll is five times larger." The truth of it was that my doll was but a very little larger, only it seemed larger.

F., 19 years. When a child, I saw a small grass snake. I ran into the house and said that there was a snake as big as a broom.

F., 20 years. When small I helped my brother kill a baby snake. I told that we had killed a great big striped adder. I did not feel as though I was lying. It did seem large to me.

F. At five, *Mother Goose* was my delight. Its ridiculousness and its jingle strongly appealed to me. There is nothing little to a child. My great troubles could not easily be pitied or kissed away; but give me *Mother Goose's* cheery logic, and I could send them off myself in womanly fashion.

F. When a little girl, I had but few companions. This, however, was of little consequence, as I had a group of five or six imaginary playmates. These were very distinct individuals with names, as Violet and Kate, and with decided personal characteristics. We played all sorts of games and roamed all over the grounds together. I never thought of telling any one about them; they seemed a part of my own individual world which I could not transfer to others understandingly.

F. The most vivid memory of anything as a child is of a continuous story. When the shades were partly drawn, my friend and I would sit down on the floor and tell our story. We took turns, trying to divide the time equally, and then each one tried to out-rival the other by prophecies of the beautiful things that were going to be ours when we grew up to be princesses.

(3) *Interest in Words.*

Again the language interest may be seen during this period by the interest in new words—a continuation of the imitative

sound impulse of the earlier period. As Miss Williams (85, p. 274), Mr. Conradi (18, p. 359), and others have shown, children delight to use new words, and words of peculiar sounds. "Whenever at six or seven," says Miss Williams, "my niece, Helen, heard a word that attracted her attention, she used to say it softly to herself many times. Thus, after practicing the word *diarrhœa*, I heard her say to one of her dolls: "Come here, Diarrhœa, my dear." On another occasion, she told me that her dolls had two gods, *Diphtheria* and *Diarrhœa*. Sometimes she would pour forth a steady stream of words, for the most part nonsense, lasting for an hour or more. This charm was due to the pleasure she derived from the sound and the act of speaking. Such words as Sheherezade, Badrul, Boudoin, Marie Antoinette, Adelaide, appeared to give her special pleasure." The same fact is seen in the case of Professor Stumpf's boy aged five years (77, p. 419). He had received a set of lettered blocks containing both small and capitals in both German and English script. He arranged these into families, giving to each a family name. Thus, Z, B, and g were called "Turn-family" (Dreh-F); p, "Tail-family;" M, "Nice-family" (Schön F); H, "Stork-family;" etc. He had about thirty different families which he retained for three months, when the passion was diverted. Soon after, the child became interested in counting, and numbers, even the addition, subtraction and multiplication of numbers became of such absorbing interest that he made simple problems involving these operations, and solved them correctly. Another form of the interest in symbol forms is reported by Margaret C. Whiting; when about eight years old, she began to think the numerals as individuals and not as abstract symbols. 1, 2, and 3 were children. 4 was a woman, etc. Dr. Krohn, Galton, President Hall, President Jordan (44, p. 36) and Miss Calkins (10, p. 439) have reported many cases of color association with letters, words, and sounds with names of persons, months of the year, and days of the week. After consulting five hundred and twenty-five students, Miss Calkins concludes that "it is at least certain, as the table shows, that almost all color associations and forms date back to childhood."

Another illustration, which shows the peculiar form that the interest in words may take, is reported by Fannie E. Wolf (89, p. 141) in the case of a seven year old boy who had written a dictionary containing two hundred and fifteen words. The boy had spent two years in a kindergarten, but had had no suggestion. The idea, it is said, as well as the work, was entirely his own, and when completed it was submitted to his parents. Of the 215 words contained in the dictionary, 42% are nouns, 30% are verbs, 10% are adjectives, 4% are prepo-

sitions, and the remaining 6% is distributed among conjunctions, articles, participles, and one abbreviation, *I'll*. The definitions are invariably given in the form of sentences, usually including the word defined, and expressive of some action or use of the thing. The dictionary is also abundantly illustrated where an illustration will serve to convey the image.

Aunt—is a little insect that is black, creeps around in sand.

Bell—is something that if you shake it rings.

Basket—is to so or for papers.

City—is a place like New York.

Circle—is a round thing like this (illustration).

Drum—is like this picture to hit with sticks.

Fuss—is if you have a quarrel with anybody.

Kind—is if you give things away, then you are kind.

In—is if you put egg in a box.

Vain—is if you are always look in the glass.

Old—is not new.

Saw—is if you see something after you saw it.

INTEREST IN WORDS.

F., 7 years. Asked questions: "Which do you like best, Rowena or Revena, Gladys or Evelyn?" When answered that Evelyn was a little the prettier, she said "I think so, too, because it sounds like Agraël playing upon the harp."

M., 6 years. He arranged lettered blocks into families with family names: *S, B, g* was called "turn-family" (Dreh-F); *p*, "Tail-family" (Schwanz-F); *M*, "Nice-family" (Schön-F); *N*, "Noisy-family" (Sans-F); *F*, "Standin-family" (Stehdrin-F); *D*, "Einbauch-F;" *H*, "Zweibauch-F;" *H*, "Stork-family," etc.

When about seven, I delighted in new words, not so much in using them as in saying them over to myself.

Jordan. There are certain powers possessed by childhood, which grow weak or disappear with advancing age or wisdom. One of these is the ability to recognize shades of color in ideas or objects which can have no color at all. In my childhood, I always associated the idea of color with the letters of the alphabet. The letter *R* always called up the idea of greenness. *S* was yellow; *A*, scarlet; *V, D, Y, K, W, M, P*, were blue; *O, C*, white; *I*, blue-black; *M* and *P*, lead color; and *Q* was almost colorless.

Dr. Karsten recognized the colors in the various vowel sounds.

(4) *Language Expression and Form.*

If we turn to the side of expression, this period is essentially a stage of *spontaneous play* upon sounds of words, combinations of words, rhymes, jingles; the sentences are often incomplete and incoherent, very direct, often omitting the parts which do not suggest concrete images. There is an incessant flow of words and gestures. Mrs. Trettien set down on February 3rd, 1904, every word spoken by H., aged two and one-half years, during the period of one hour. The child was busy at play about the house with dolls and other playthings. During this hour which was a typical hour of the day, 2:45 to 3:45 P. M., she used 1,068 words in 217 different sentences or exclamations,

involving 180 different subjects. Of this number, 49 were questions. Some of the sentences were repeated in rapid succession six times.

Mr. Gale (25, p. 102) reports the case of a boy who on the 182d day of his third year used a total number of 9,290 words, and 479 different words, and another boy who on his second birthday spoke 805 different words and a total number of 10,507 words. In the number of repetitions of a single word, Mr. Gale found that one boy used his own name, "Sammy," 1,057 times on one day during his third year (as subject, object, and possessive, and in place of personal pronouns); and also the case of a girl who used her favorite "little" 660 times, "that," 609 times, and the aggressive *ego* words, "I," "me," and "my," 970 times in one day. Mr. Sanford Bell (3) also counted the words used by his two children, aged $4\frac{2}{3}$ years and $3\frac{1}{2}$ years, respectively. The older used 14,996 words; while the younger used 15,230 words in one day. He also found that the rate of speech was accelerated at times, and retarded at others, like the general activity of children. While these results are still very unsatisfactory, yet, they do, in a measure, mark the amount of energy which the child puts into his language practice.

It may be well for kindergarteners to consider this enormous activity on the part of the child, and not enforce silence and suppression to a point of causing arrested development.

The child's drawings furnish a good illustration of expression. To the child, drawing is a language which follows the line of its spontaneous impulse and expresses the child's thoughts regardless of the way the physical copy appears to the eye. A few simple lines are sufficient to represent a man or other creature. Often there is undue emphasis placed upon some minor detail, which momentarily catches the fancy, distorting the representation. Another feature which invariably appears during this period is the faithful delineation of more than is visible in the order of nature. The legs of the traditional man are displayed through the nether garments, and if astride a horse, the body of a horse does not obscure the view of the farther limb.

The child's spontaneous flow of language is usually very free and easy when accompanied by dramatization during this period. Its story fabrication knows no license; thus, Sully (78) mentions a boy three and one-half years of age who began the description of a dog by laying on a miscellaneous pile of color-adjectives, blue, red, green, black, white, and-so-forth. "With a similar disregard for verisimilitude and concentration of the aim of strong effect, he would pile up the agony in a story, relating, for example, how the dog had killed a rabbit

("bunny"), had his head bitten off, was then drowned, and so on, through a whole Iliad of canine calamity." The form of expression is, however, direct, definite, using short and simple or loosely connected sentences, which emphasize the mountain peaks of thought, with the lesser important words entirely dropped out, nor does the child miss these words, as Professor James has shown. But when listening to a repeated story, the child's exacting memory demands full, unvarying details. The reality of the story does not as a matter of common observation admit of even the slightest change, and a single repetition of a verse of several lines is remembered without difficulty.

H., 2½ years. Remembered the subjects of ten different pictures by a single study of them.

The spontaneity may also be measured by a somewhat fixed cadence which suggests that expression is not merely in response to the sense impressions, but also in response of something akin to a deeper poetic feeling.

F., 2½ years. Repeats prayer,—

"Now lay me downz t'heap (sleep),
I pay ye Lod—hol (soul) I' keep,
I should die, fore I wake,
Pay ye Lod my hol la take."

F., 3¼ years. Repeats story of Little Red Riding Hood as follows: "Are flowers. Red Riding Hood picks. Basket in kitchen, meat, wine. Basket carry. Can Wolf come? Wolf is coming. Wolf runs Grandmother. Wolf comes into room. Wolf whip. When wolf is dead."

F., 4½ years.

"The beautiful trees are here,
And Christmas is everywhere,
And the birthday will come again,
Father, mother, and baby saucepan."

In this rhyme there first appears a deeper emotional tone which clearly shows that the child's life is in *rappor*t with nature; but the lines close with a nonsense jingle. The same child when looking out into a garden of calla lilies in the morning sang:

"The lilies and the lamps are lighted,
And the moon and stars are shining,
And the leaves are falling down,
And the wind is blowing, O, so hard.
The flowers love the dew,
The flowers love the wet.
All the pepper flowers are blowing hard,
And the lilies are blowing hard,
And the dew is wet."

On a rainy morning the same child sang:

"All the trees are shining,
And the morning is sitting on the sky,

And the dew is coming, is coming,
 And the rain is falling
 Where the sun is gone."

Boy, 7 years. A poem to his teacher.

"The donkey, the donkey,
 He put on a white cap.
 The donkey, the donkey,
 He put on a white cuff.
 The dog, the dog,
 He danced a jig,
 The cat, the cat,
 She caught a bird."

As the child grows older, its ideals change; its play becomes more socialized, and the language interest changes as well. The rhymes of Mother Goose, of jingles, of Nature myths pass on to the counting-out rhymes so common among children. Mr. H. Carrington Bolton (5, p. 31) has collected nearly nine hundred examples in use among modern civilized and semi-civilized races. Of the rhyme beginning, One-ery, two-ery, ickery, Ann, he has found thirty variants. Mr. Bolton says, "the customs connected with the counting-out, as reported from all parts of the world, and even the rhymes themselves, have many features which are strikingly similar. The doggerels are similar in their rhythm, in the rise of numerals, in the admixture of gibberish with words of known meaning, and in the application to the custom of counting-out." The important element in these rhymes which appeals to children is the dramatic, a combined effect of voice and muscular expression.

SPECIAL FAVORITE RHYMES OF DIFFERENT NATIONS.

American.

Ena, mena, mina, mo,
 Catch a nigger by the toe,
 If he hollars, let him go,
 Ena, mena, mina, mo.

German.

Ene, bene, dunke, funke,
 Rabe, schuabe, dippi, dappi,
 Käse, knappe,
 Ulle bulle ros.
 Ib ab aus,
 Du liegst draus.

Scottish.

Eatum, peatum, penny pie,
 Babyloni, stickum, stie,
 Stand you out thereby.

French.

Un, deux, trois,
 Tu ne lés pas,
 Quatre, cinq, six,
 Va t'en d'ici.

Even the more serious poems which children choose at this age are those in which the rhythm and life are especially prominent, as Dr. Wissler (86, p. 523) has shown, children caring less for sentiment and thought. The following little rhyme is a favorite:

"Two little kittens one stormy night,
 Began to quarrel and then to fight."

When we turn to a further analysis of the material thus far presented upon this period, we find that the development of the language interest rests upon and can be traced in the growth of the personality. With the development of memory, attention, and will, the naming impulse gathers up those various elements and experiences, more or less consciously, which constitute the "empirical I" with its individual stream of interests. The mind in its rapid growth entirely naïve, unfettered by convention and tradition, seizes upon the sense-experience and appropriates it. Childhood is the age of fancy, dreaming, and make-believe. It pushes out into the unknown, as we have seen, with questions and longings and builds about its meagre stock of knowledge a halo of splendor. In all this, we can catch a glimpse of the child's anthropomorphic way of looking upon the world. Things animate and inanimate are possessed of life similar to its own. Nature becomes a great drama whose actors are as real as life itself.

PERSONIFICATION AND DRAMATIZATION.

M., 20 months. Conceived a special fondness for the letter *W*, addressing it thus: "Dear little boy, *W*."

M., 4 years. While tracing letter *L* happened to slip, changing to form an acute angle, thus *V*. He instantly saw the resemblance to the sedentary form, and said, "Oh, he's setting down!"

F., 2¼ years. H. impersonated a little baby's manner of walking,—"This is the way baby Ruth walks." At the same time she walked about clumsily, swaying from side to side. She constantly speaks of herself as a little baby, and often creeps on her hands and knees.

F., 1½ years. She called a sheep *Mama-ba*, and a lamb a *Ilda-ba*, having called her smaller brother *Ilda*.

F., 4th year. She talks much of God. Says, "I am the dear Lord." Shakes the curtain and says, "The dear Lord lets it rain."

M., 2 years. When caught red-handed in mischief, he would, when scolded, unhesitatingly name some one else as the culprit.

M., 3¼ years. His father told him if it rained he would not be able to go to the circus, for nobody could drive away the rain. The child instantly replied, "The Rainer can." When asked who this wonderful person was, he replied, "A man who lives in the forest, *my* forest, and has to drive the rain away."

M., 3rd year. The child got hold of some cabbage stalks and amused himself with making them represent different persons visiting each other.

F., 3½ years. Covers her face with a veil and says, "Papa, where is Lucia? I am not here, I am in Anenau (Argenau)."

Reported by Miss Calkins: Letter *T* is generally an ungenerous creature. *W* is a soulless sort of thing. *4* is honest, but mathematically angular and ungraceful. *3* is untrustworthy, fairly good-looking in personal appearance. *9* is dark, a gentleman, tall and graceful, a friend of *L*. *N* seems like a maiden aunt, sister to *M*. *A* is odd and stands by himself, an eccentric middle aged man.

An imaginary *John* is held responsible for everything objectionable in the house.

F., 6 years. I once happened to overhear a little girl of six talking to herself about numbers in this wise: "Two is a dark number; forty is a white number."

(5) *Summary and Deductions.*

There is no problem in the development of the language interest which has provoked more discussion than this one of the myth-making impulse in which the imagination, in its parables, fables, allegories, fiction, and play, takes such unlicensed liberties, even to gross exaggerations and positive prevarications. One parent asks, "How far is it advisable to encourage an imaginative child? If encouraged in these things, will it not be a fruitful source of telling things that are not true as he grows older?" Another says, "I never allow my child to hear or tell anything but that which is true." To see the full significance of the myth-making impulse, let us take a broader view. "The yearning to know," says Major Powell (64, p. 19), "is universal." "In savagery, in barbarism, and in civilization alike, the mind of man has sought an explanation of the changes in nature. 'How' and 'why' are the questions asked about these things. They are questions springing from the deepest instinct of self-preservation. The movements of heavenly bodies, the changes of seasons, the succession of day and night, the powers of the air, the majestic mountains, the ever flowing rivers, the flight of birds, the gliding of serpents, the forms of storm-carved rocks, the growth of trees, the blooming of flowers, the mystery of life and death, and in all the operations of nature, man's weal and woe are involved. A cold wave sweeps from the north and rivers and lakes are frozen, forests are buried under the snow, and the fierce wind almost congeals the life fluid of man himself. At another time, the heavens are brass, the clouds come and go with mockery of unfulfilled promises of rain, the fierce mid-summer sun pours its beams upon the sands, and blasts heated in the furnace of the desert sear the vegetation; the luscious fruits shrivel before the eyes of famishing men!" According to Major Powell, there are two grand periods of human philosophy, the mythical and the scientific. In the first, all phenomena are explained by analogies derived from subjective human experiences; in the latter, phenomena are explained as orderly successions of events. In the philosophy of the immature mind, the objective world is an extension of the subjective without a line of demarkation; the outer world is classified by their analogies with the subjective. Primitive man measures distance by his own pace, time by his own sleep. Noises are voices, powers are hands, movements are made afoot. All nature is personified. Hartland (36) has summed up the psychology of myth-making as resting upon,—(1) limitations of the individual's experience and knowledge of the facts which he sees occurring about him, (2) the mental attitude (curi-

osity) which these mysteries of life produce in the mind, and (3) the interpretation of nature in terms of his own consciousness. The subject says Wundt, not only sees his own sensations, emotions, and voluntary movements reproduced in the objects, but even his momentary affective state is in each case especially influential in determining his views of the phenomena perceived, and in arousing ideas of the relations to his own existence.

Every primitive race has its sagas, ballads, legends, popular rhymes, folk-lore, myth, fairy-tales, or stories of its heroes, which, according to the German mythologist, Kuhn, began to be framed the moment the people consciously recognized the existence of such unseen agencies. They were founded on visions, dreams, and those vague mental states which fill up so large a part of savage life. They were told by professional story-tellers to entertain and instruct a listening group, sitting about the fires; or by the older men, lying and bragging, after the manner of story-tellers, recounting their feats in war or the chase.

Story-telling among civilized people is almost a lost art. From the returns there came a response which testified to the fact that children enjoy listening to stories in the quiet evening hour, and in many cases enjoy repeating the stories to themselves, their fairy companions, and even to adults. This is a typical response from a parent: "I have practised a while on the idea of story-telling for the entertainment of the never ending source of amusement of the little folks, and am convinced that 'it pays.' I am only troubled by a lack of native genius, and must fall back on books which always disappoint the listener." To the savage it is no figure of speech to call upon the sun to behold some heroic deed which he has committed, nor is it to the child who looks out at the moon and says, "Moon hides her face behind the clouds;" or "Rain, rain, go away, come again some other day." One observer says, "When I was a child and heard thunder, I thought it was the voice of a man behind the clouds." To the child as to the primitive man, this fairy-land is very human in its conception and organization. Its inhabitants live much as human beings do. They eat and drink, they love and hate, they are grateful for benefits received, and reward a kindness. But they do not forget to avenge a wrong or an offence. This fairy-land is more than human, since its inhabitants are neither bounded by time nor space. They possess unbounded magical power and heroic qualities which far excel human attributes. Nor are civilized people so far removed from this spirit of animism. Civilized man still kicks the stone which bruised his foot, and our poetry abounds with it, and has so far kept it alive in

appropriate metaphors and similes. We can, then, in the realm of the mythical and make-believe, see something of the longing of the soul of childhood and primitive folk as it tries to seize upon and understand the world of sense. The dominant activity (imagination) during this period, as Ribot says, is not adulterated by the intrusion and the tyranny of the rational elements. We have probably not yet begun to realize the importance of this period in the development of the language interest. For it is here that the attributes of things coagulate and float off in the mental nebula and become attached to some purely mythical being, to a Santa Claus, a doll, a pet, or what not, with all the eccentricities and peculiarities, without reference to time or space, which is, however, simple and lies within the child's mental grasp. As the child's personality grows to take in the family, the school, and community, the ideal must climb steadily by transferring and extending these attributes from the imaginary character, from Santa Claus, dolls, pets, etc., to parents, brothers, and sisters, and mates of the school and community. If this view be correct, then some of the training which children are receiving to-day is not in harmony with child development, since many intelligent parents look upon the stories of Santa Claus and child-mythology with suspicion, because "they are not true." One conscientious mother writes, "I cannot account for the fact that my children have a desire for the blood-thirsty stories of *Jack the Giant Killer*, *Little Red Riding Hood*, and similar blood-thirsty stories, when the sight of the real article, blood, sets most of them to quivering." "I believe," she continues, "that *Jack the Giant Killer* and similar stories should be as carefully kept from the little children as the cheap dime novel is kept from the growing boy until the desire for good, wholesome stories is formed." An observer reports, "When I was a child, I used my story-telling to protect myself from some punishment or trouble." In answer to some of these difficulties, we can but refer to the fundamental law of growth which appears in all life, the law of adjustment as set forth by Paola Lombroso (48, p. 379): "The law of the economy of effort subordinated by that of the protection of the *ego* (moi)," says Lombroso, "is the great law of the psychological life of the infant." This law is very well illustrated in the development of language. In general, the *sensory* development precedes the *motor*. The infant, we saw, had definite ideas sometime before it could express those ideas by means of vocal language. It could recognize the source of its food and members of the family before it could call them by name. So the child may build, indeed must build, out of its sense-experience many "air castles" before it can give a crude description of a single one, whether by voice or gesture. The

motor development in language experience is so slow and sluggish that it holds in check, for want of ability to express, excursions of the mind, until experience with life itself causes it to discriminate between the real and the fictitious. The real danger appears to come from the other direction; namely, insufficient and unsuitable language material which lies within the range of its experience out of which the mind can build large and varied speech co-ordinations. For, if myth and folklore are withheld during the early years, and reading, which is slower still than speech, is forced upon the child at five or six, and a year later writing, which is still a more cumbersome mode of expression, we may appreciate something of the influence of these slower forms of expression in retarding the growth of thought and language powers, thus causing arrested development. If to this we add the criticism which has been expressed by Dr. Harris, that the child is drilled in such combinations as, "A fat cat sat on a mat. He had a rat, etc.," until it loses its sense of euphony, and acquires a habit of making English sentences with villainous cacophonies. "Here," says Dr. Harris, "is produced a fixed habit, an arrested development of the culture of the ear for pleasant sounding speech." Here, then, we have the primary cause of bad English: First, in causing an arrest of the mind action itself by chilling the mental tendrils (curiosity and questions) by an unsympathetic attitude toward its early cravings, by giving material which does not appeal to the interest; and second, by forcing upon the mind prematurely the slower forms of expression,—reading and writing.

The positive suggestions, as drawn from the facts of this study, looking toward the proper training, may be summed up as follows:

1. Place the child in a rich language environment, and *let it come in contact with nature.*
2. The parent or teacher should keep in a sympathetic relation with the child by answering its questions conscientiously, thus encouraging it in its longings to understand the environment in which it lives.
3. Since the child's mind has limited experience with the objective world, and lives largely in the realm of fancy, such selections of myth and folk-lore should be told to it as lie within its power of appreciation as to its rhythmic, imaginary, and dramatic qualities.
4. The child should be permitted and encouraged to relate its own stories and facts of its own experience in its own way. If there is a tendency to report facts differently than they appear from the adult point of view, it should be remembered that to the child these things appear larger and colored by its own

pre-perceptions. The natural method of correcting these imaginary differences is to send the child back to nature to verify its observations.

5. Since the auditory memory is especially strong, and there is an interest in new words, this is the period to begin to learn literary gems and the time to learn to speak a foreign tongue.

6. Due to the development of the vocal organs, this is the time for rote singing of the folk-songs.

7. Since this is the period of spontaneous play, the best method to pursue is, again, "to let the child alone in a rich language and natural environment, and set it a good example."

2. THE PRE-ADOLESCENT PERIOD.

The period from seven to eleven or twelve has generally been recognized as a period of re-adjustment, an intermediary stage of life between the stages of greatest physical growth and functional maturity. It is introduced by a period of physical disturbances, as teething, changes in the vascular system, etc., accompanied by a loss of vitality, after which growth is uniformly less rapid. The senses are alert; muscular and mental co-ordinations are advancing rapidly; verbal memory is at its best; and the imagination, having been tamed down by experience, is less wild and fanciful. As shown by the studies upon play, interests, and ideals, this is a transition period from the narrower personal to the broader social self, the plays pass from the individual to the organized group games; the ideal is extended from the personal acquaintance to some historical, literary, or national character.

The development of the language interest is equally characteristic. The childish interest in myths and fairy-tales is now passing to the stories of life, the narratives. Wissler (86), Miss Clara Vostrovsky (83), Barnes (2) and others have found that stories, involving the stories of daily life and animals in action, are much preferred during this period. "In the child's story," says Miss Vostrovsky, "no sentiment is expressed; nor are its own feelings referred to. There is little of the æsthetic, no description of person or dress, and not general but definite names are used by it. To the child, certain facts or conditions produce certain inevitable reactions, and to mention these reactions seems to it an utter waste of words." In the child's thought and composition, there is a straightforward narrative, which is packed full of vigor and of the "strenuous" in life.

During the period of childhood, as we have seen in the study of the rhyming instinct, the soul is often swayed by Nature's modes; but in the pre-adolescent stage, the soul appears to cadence more to the social rhythm. Miss Fannie Gates found

that children of seven generally preferred the lullabies and baby songs of home and school,—this interest continuing quite constant up to eleven. One boy of seven says, "I like *Jingle Bells* because it seems as if you could hear the bells jingling." Another says, "I choose *America* or *Star Spangled Banner* because it is our country's song." There is, however, a gradual increase in the interest in National songs, which appeals to another impulse. With the extension of the social consciousness, the historic and the patriotic feelings and emotions manifest themselves in larger impulses. A boy of thirteen says, "I like the *Marseillaise* best because it rouses me up, and the words express just what you feel." *America, The Battle Hymn of the Republic*, and others are chosen because they are "songs of freedom," "impressive," "fiery;" the tune is grand and corresponds with the words. The associational element also appears in consciousness during this period. One boy of eight says, "I like *Pretty Robin* because in summer when we open the window he sings." Girl of eight says, "I like *Jesus My Shepherd, Home Sweet Home, In the Green Woods*, because mamma used to sing them to me when I was small." A boy of eleven years says, "I like best *I'm a Shepherd of the Valley*, because it seems like the mountains where I used to live, and where the sheep used to be."

These illustrations, which are typical, tend to show that this transition period contains many elements of childhood as well as the beginnings of new elements which foreshadow the dawn of a new day of development.

(1) *Interest in the Choice of Words.*

The interest in words during this period is significant. As the studies of Miss Williams (85) and Mr. Conradi (18) show, there is a special delight in new words because of their form, they look "pretty" or "queer." Words in which reduplications of letters or syllables are prominent are preferred, *Mississippi, zig-zag, lullaby, murmuring, aurora-borealis*, being special favorites. The newness, strangeness, and bigness of words form another element of interest. *Constantinople, delightful, extraordinary, circumstantial, ecstasy*, are mentioned as being especially pleasing. One observer writes, "When about nine years old, proper names were quite interesting to me. I remember sitting down with my slate and writing all the proper names I could think of, and then getting my spelling-book and looking up all the proper names it contained. My dolls never kept one name for a very long time. I was always sure to find another which I thought prettier than the one in use, and so changed it at once for the new one."

This interest in which the reduplications of letters or syllables

are prominent was more or less consciously the predominant element in the earlier period; but there is another interest besides the interest in the words themselves, which comes to the fore-ground of consciousness now; that is, an interest in the associations which go with different words. These studies show that certain proper names are preferred and others rejected because individual bearers had brought credit or discredit upon them. One observer states, "I would not have a brother named Clarence lest the name should make him as disagreeable as certain boys of that name that I know." Another says, that she believed that if one were called by the name of a flower, as Violet, she would certainly possess the qualities of the flower, those qualities being carried by the name,—the name being a characteristic which helped to make the person.

History reveals the fact that Christian names as well as surnames still have their associated meaning: Thus, Anthony is priceless; Augustus, imperial; Clara, bright; Priscilla, old; Rufus, red or red hair; Sylvester lived in the country; Mary, the most popular of English girls' names, is of Hebrew origin and meant, according to some authorities, *bitterness*, according to others, *stubbornness*; but when the name became associated with the Virgin it became almost a synonym of purity and holiness. Youngé has shown the same development of the meaning of names in mythological literature among the Anglo-Saxon races. North American Indians and African tribes, we are told, largely obtain their names from the association with some personal peculiarities, complimentary or otherwise, or as a result of some deed of prowess. According to Miss Fletcher, they change the name from time to time with elaborate ceremonies, as the accomplishments of the individual change. Dr. Burk has shown that boys and girls enjoy naming others by some, usually uncomplimentary, epithet, and *Long-Legs*, *Bean-pole*, *Skinny*, *Reddy*, *Cry Baby*, *Scab*, and the like, are found in every company of play fellows.

(2) *Form as Seen in the Economy of Expression.*

Several facts stand out in clear relief in the development of the language interest of this period. First, the passing from a predominantly sensori-motor toward an associative type of mind. The child begins to see a larger meaning in the facts of sense experience. As Barnes (3) has shown, words grow richer in content. The child, on hearing a word, will by euphonic analogy jump at a conclusion as to the meaning. Thus, 36 out of 200 children in a western State defined *monk* as a little squirrel; one defined it as a *chipmonk*; others confused it with *monkey*; still others had a vague sense of its meaning; as, "a monk is an old man," "monk means cruel," "monk is a rank," "peo-

ple that used to live in Spain." The years from seven to eleven are years of rapid progress in the content of words. The same is shown in a study of Schoenrich's experiment (71). He dictated the words *Christopher Columbus* and *Chicago* to children 7, 8, 9, and 10 years of age. The results show that the child's word-forms are but a bare ghost of the original. Christ of Columbus, Krist of Colonembes, Kristofscollumbus, Chickorgo, Schickkoga, Schigo, Sechcoler, Chickkeargo, are some of the distorted remains of these two words.

Before this period, there is a delight in everything that makes a strong appeal to the senses. Motor activity is spontaneous and lacks co-ordination, so that the expression inadequately represents the copy. Second, during this period, as Dr. Hancock has shown (55), there is a rapid stride in the development of the speech form. The speech form of children is characterized by connected narrative; there are few articulations and subordinate statements. All verbs are essentially principal verbs connected by *ands*. There is no real sentence division; the stops are not determined by a sentence sense, but rather by pauses for breath. The use of simple sentences decreases about thirty per cent. from ten to fifteen years of age, with the greatest change from perhaps eleven to twelve and thirteen to fourteen, especially in boys; while there is a rapid increase in the use of the complex sentences from ten to eleven years. The percentages of subordinate sentences show,—first, the relative increase in number used; second, the relative proportion of each kind used at eleven and fourteen. The number of subordinate sentences (adverbial, adjective, and substantive) used increases rapidly from ten to eleven years for both boys and girls. The adverbial subordinate sentence is the kind most frequently used by children during this period. The child still makes many errors in form of expression, both oral and written. To quote from Professor Barnes's comments (2),—"One cannot help feeling as he reads this story (Robinson Crusoe) that the boy could not have both the eager desire to write, and what we ordinarily consider a proper respect for grammar, spelling, and punctuation. This boy has some rudimentary respect for form, as we see by the way in which he inserts periods and commas here and there, by the way in which he occasionally reverts to capitals; but his forms never get between him and his subject. They are like the clothes of South Sea Islanders,—reserved for Sunday service."

In the study of form and expression, we see again the operation of the principle of economy. But, it being the time of rapid motor co-ordination, its operation is apparent in the intensification of energy in thought expression. The many loose compound sentences with three or more predicates so charac-

teristic of childhood are combined by condensed or suppressed forms, thus changing the form from the child's mode of expression to the simple complex and compound sentences of a more mature mind. This process, says Mr. Hancock, may continue still farther, and what was at one stage historically a co-ordinate member of a compound sentence becomes at the next a subordinate sentence; at a later stage it appears as an infinitive, participle, or conjunctive clause; and later still it may be found a single word, or prepositional phrase, doing in this as much work as in its earlier form.

Third, there is a greater exactness of memory, and in the economy of expression there appears a greater precision, which manifests itself in the use of more exact and concise statements without flowery embellishments; precision and slang increase gradually between nine and eleven in both boys and girls.

(3) *Summary and Deductions.*

When we turn to the matter of training, this period is in many respects unique.

The child, in the sensori-motor stage, lives in a world of things; its mental images are clear or vague according to the vividness of the experience. The mother-tongue has been largely acquired as a matter of experience; the vocabulary will be large or small, the content of words rich or barren, according to the language heard and the facts experienced. Childhood essentially emphasizes the *sensory* function of language with the motor function in the background. If a foreign language is to be learned, psychological principles demand the object of sense before the auditory symbol. The mind must become conscious of a new experience and feel the need of an appropriate symbol by which the experience may be labeled and recalled before the word is given.

During later childhood or pre-adolescence, when the *motor* centres with their connecting associations develop more rapidly, when speech co-ordinations are becoming habitual, and words begin to have a larger associative meaning, the process of instruction should vary. The child should now be required in a measure to reverse the process; it should be required to gather up the particular facts of experience, organize these, and express them in oral speech. This will stimulate the associative processes and give control of the motor co-ordinations. "The child," says Dr. Hall, "should live in a school of sonorous speech. He should hear and talk for hours each day. He must have less reading, less writing." This will require the individual to gather up the associations of his experience and express them by the most direct circuit. Miss Williams (85, p. 294) has called attention to the paralyzing effect of the

fear of ridicule and unsympathetic criticism, in a period when hearing is often imperfect, due to an improper perception for the sound of the word; when associations are rapidly forming and the child mistakes the connection; when motor co-ordinations are still imperfect, mistakes are inevitable, and every suggestion intended for speech development should be to stimulate mind activity, which in turn will find the proper channel of expression. Many "so called" errors are simply characteristic of growth, which growth alone can eradicate.

SUMMARY.

I. Since this is the "Golden Age" of verbal memory and the period of rapid motor co-ordination, after the mother-tongue has been acquired, the training given should be as follows:

1. Systematic drill in the correct pronunciation and content of words.

2. If the child has not yet learned to read and write, this is the period of systematic instruction, and the mechanics of these arts should be almost reduced to reflex acts.

3. This is the period in which the child should learn a foreign language by the conversational method.

4. Correct form should be given in examples of literature rather than by didactic instruction in grammatical forms. The spirit must not be sacrificed to the letter.

II. Since this is the time when the child's ideal extends to broader fields of acquaintance, to historical, literary, or national characters, the training should be accordingly:

1. To make the child acquainted with the lives and deeds of the great characters of the race.

2. To saturate the child's mind with the masterpieces of the literature of the race, in order to keep his thoughts and feelings in *rapport* with the race.

3. To let the child live in sonorous speech, and let him talk much the thoughts of his best experience.

III. PERIOD OF ADOLESCENCE: OR THE SECONDARY PERIOD OF LANGUAGE DEVELOPMENT.

The passing of the Golden Gate of Childhood into the Storm and Stress Period of Life has been recognized in strange and significant ways by both primitive and civilized people. The feasts, ceremonies, and many mystic rites are monuments along the line of progress. The physical changes of this period, as is well known, are increased growth and functional maturity. The voice changes; in girls, it grows richer in tone; in boys, it falls an octave in tone and changes in its general quality. The psychological changes have been observed in an increased mental activity, as manifested by the keenness of senses, the

hopes, longings, passions, dreams, and temptations, by the fuller development of the rational powers, and the changes in the social and religious ideals.

(1) *Interest in Nature and Reading.*

The changes that occur in the language interest are as significant. The longing of the soul is now apparent, as shown by the studies of Lancaster (46), Chase (14), Williams (85), Conradi (18), and others, in a desire to get near to Nature in her various moods and forms. It is here that the adolescent soul finds a sympathetic response which brings rest and self-control. It is to Nature that the disturbed soul flies to find a refuge from its warring impulses. Nature invites and gives time and quietness for thoughts and meditation which the awakening soul demands in order to adjust itself to the new order of things. The curve which marks the love of nature, as found by Lancaster, rises rapidly from eleven to twelve, culminates at thirteen, fourteen, and fifteen years, and then gradually declines again.

The desire to extend the bounds of experience may again be observed when the soul takes flight in books, in what has been called the "reading craze." This passion, as the studies show, coincides exactly with the love of nature, increasing gradually from eleven to twelve, rapidly from twelve to fourteen, culminating at fifteen, and then gradually decreasing to twenty. Lancaster (46) has further collected facts from the biographies of two hundred eminent novelists, poets, inventors, and artists, and found that one hundred and twenty, or sixty per cent., experienced a period of the "reading craze."

F., 23. I was allowed to read just what I chose, and chose to read everything I could get at thirteen. For two years, it was a great passion.

F., 23. I read *Ivanhoe* many times at thirteen, so that I could repeat pages and pages of it. Passionately fond of Roe's novels at fourteen. Poems of Nature, especially Scott's *Melrose Abbey*, and Tennyson's *Saint Agnes' Eve*, and Longfellow's *Legend Beautiful*, were imprinted on my memory never to fade. Whereas poems studied and recited as tasks have all faded.

M., 32. At fourteen and fifteen I read the life of Napoleon. It made an immense impression on me. I tried to dress like Napoleon, copied dozens of pictures of him. At eleven and twelve I read novels, the more the better; read in bed, on the stairs, everywhere; neglected everything else.

F. At twelve to sixteen, read mostly boy's books. At twelve, I became perfectly wild over Duchess' and Laura Jean Libby's books. From eleven to fourteen I read everything—detective stories, dime novels, Sunday school books, standard authors, religious papers, newspapers, magazines. Sat up in bed till after midnight. At thirteen, I read nine novels in one week. From twelve to fourteen I read four books a week.

M., 18. As a child, I was delighted with fairy-tales and characters in action only. Became a great reader of fiction and poetry at the adolescent period.

Edison attempted to read through the Detroit Free Library, and read fifteen solid feet before he was stopped.

Alex. Murray, at fifteen, in one and one-half years, acquired almost unaided the Latin, Greek, French, and Hebrew languages, and read several authors in each.

Franklin, at thirteen, read poetry all night, and wrote verses and sold them on the streets of Boston.

Bryant had poor health till fourteen, when he changed permanently to good health. He was a devoted lover of nature, and began to write poetry at nine. From twelve to fifteen, he was deeply religious, and prayed for poetic genius. He wrote *Thanatopsis* in his eighteenth year.

Howells wrote an essay on human life at nine. He was on a newspaper from twelve to fourteen.

Holmes wrote poetry at fifteen.

Joseph Henry at ten followed a rabbit under the Public Library at Albany, and found a hole in the floor that admitted him to the shelves. He took down a book which interested him so much that he read all the fiction in the library.

T. B. Read had a passion for reading from twelve to thirteen. He ran away at seventeen, painted, acted, and wrote poetry.

Simultaneously with the increased interest in Nature and in books, the feeling toward God changes to a more sympathetic, deep seated, emotional sentiment. The interest in music and art changes from the more sensuous to that which admits of thought or emotional interpretation; the musical drama is preferred to the merely melodious or rhythmic; the work of art which portrays a drama of life to the gorgeous or highly colored. "I see the soul of the artist now in the picture." "My pulse quickens at the sight of a fine painting." "At thirteen I longed to be a sculptor." "A deep and discriminating love for pictures came at eighteen." "From eight to twelve, I liked pictures of birds, boys, and girls. Now I like pictures in which there is sentiment." "At fifteen, a picture of Angelo's *Madonna* suddenly struck me with a beauty that nothing else has ever made me feel." These manifestations all go to show that the adolescent soul is becoming serious and thoughtful, and, to satisfy its cravings, spontaneously turns to the two great storehouses of modern thought. The motives given for turning to Nature and books are at least suggestive to parents and teachers. Nature seemed real, gave a strange thrill of companionship. The trees, flowers, and birds seemed to understand the soul. Nature inspired pure thoughts and gave relief to the overwrought feelings. The reading of books gave pleasure, stirred the emotions, aroused the imagination. Others read because they loved to read, to gain knowledge, to increase the vocabulary. And still others because it was "the fashion" to be able to say that they had read many books.

The kind of literature preferred is shown by the statements of the readers themselves, and also from the replies of forty-nine librarians in answer to the following questions asked by Dr. Chase: (1) At what age would you say there is the greatest demand for books? (2) Do boys and girls differ in respect to age? (3) Do they differ in the intensity of the book craze? The answers generally agreed in that from ten to fourteen there is the greatest demand for books. Among the poorer classes, the boys and girls differ little in respect to age; but among wealthier children, the girls are two years in advance of the boys. The poorer girl wants fairy love, while her more advanced sister is more apt to be devouring emotional literature of the Elsie Densmore style. I am often asked for a sad story by my twelve-year-old girls. It is a matter of common observation that at this age boys begin to react against the pathetic or sentimental, and prefer the out-of-door stories of life and action, while girls still cling to the emotional and sentimental. Professor Bullock (8) found by inquiring into the literature read by fifteen hundred Colorado pupils between the ages of ten and eighteen, that the maximum amount of reading is done on the average in the seventh grade, at an average age of fourteen and one-tenth years, and that the girls reach their maximum a year earlier than do the boys. He also found that in boys the years from fourteen to sixteen are the years for love of adventure and war stories. Ninety-five per cent. of the boys preferred stories of adventure at sixteen, and eighty-six per cent. preferred war stories at fifteen; while eighty per cent. of the girls preferred stories of adventure, and fifty-five per cent., war stories at thirteen. Stories of great men were preferred next in order by seventy per cent. of the boys at sixteen, and love stories by seventy-five per cent. of the girls at eighteen and seven-tenths years.

F. Books that worked up the feelings, that were either sad or exciting.

F. From thirteen to sixteen, books which were emotional. Before that, books of travel and adventure.

M. History and animal stories, because they were in our library at home.

M. Adventure, travel, history.

M. I liked to read about explorers and inventors.

M. I hated sad stories that made me cry; I wanted something stirring.

F. Historic romances and pictures of court life. I liked the splendor of their descriptions. It was all so different from my own plain life.

F. Story books, novels, and Sunday school library books.

F. I don't know why, but when I was fourteen or fifteen I liked to read about funerals and people dying. The sadder it was the better I liked it.

M. Generally, when we chose, we boys liked thrilling and dare-devil stories. I liked biographies of war heroes.

M., 14. *Peck's Bad Boy, Diamond Black, Buffalo Bill, Jesse James, Wandering Bill.*

F., 12. *The Outlaw's Bride, Against Fate, The Beautiful Wretch, What Love Will Do, Mona's Choice, One Life, One Love.*

F. Most interesting books I have ever read are *East Lynne* and *Repented at Leisure*.

One of the chapters of the Language Interest which reveals how little the adolescent mind is really understood, and how little its needs are administered to by modern society, is that of clandestine reading. While the studies in this field have not gone very far, yet those of Professor Lancaster (46), Dr. Chase (14) and others go to show that surreptitious reading among young people is more frequent than is generally supposed by parents and teachers, and that its influence is unwholesome if not in some cases pernicious. Of the three hundred seventy-six cases reported by Dr. Chase, sixty-five per cent. of the men and forty-six per cent. of the women reported a period of clandestine reading. The motives for such reading are characteristic of the adolescent mind. The reading habit has already been formed. Sixty-four per cent. clandestinely sought information which was withheld from them by parents or teachers; twenty-three per cent. read forbidden or condemned books; thirteen per cent. read in stolen time. The seriousness of this problem is apparent. Overwhelmed as the adolescent is with new impulses, feeling the restraint of the old life, he is given to solitude; if he does approach his elders with questions which to him are all important and meets with an unsympathetic response, or what is worse, a denial, his mind rebels and he seeks elsewhere.

F. Yes, read one book that way; it answered some questions I was anxious to investigate.

F. Read silly novels on the sly.

M. Read *Dick Turpin*, an act of rebellion against the narrow restraint put on my reading at home, my father being a Puritan in other matters.

F. I remember having read one book in that way. I think I read it because I knew my mother didn't want me to, and was curious to learn the reason.

M. Yes, to see if I had certain diseases that I imagined I had.

F. Yes, I did read books secretly. I read in regard to the propagation, if it may be so called, of the human race.

F. To obtain lawful information which might better have been given me by my mother.

F. A period of low-down story papers given me by my friend, Nellie, in the kitchen, which by times I tore up for their bad English, and wept in secret for their love scenes.

M. He (my brother) was at the age when he and his friends thought it 'smart' to invest in nickel novels of the *Nick Carter* and pirate sort, and read them in their shanty, constructed in an empty lot. Some of the novels found their way to the house, and my mother, with the same apparent interest as in other books, and without comment, read patiently at these till the boy—the charm of secret reading removed—

of his own accord became disgusted with the improbabilities of the stories and gave them up.

(2) *Forms of Expression.*

When we turn to the side of expression, the phenomena are characteristic. Adolescence is marked by periods of rapid expansion when new impulses break forth with such overwhelming power, and the content of the mind enriches with such rapidity as to leave behind the motor development; in consequence, the adolescent like the infant lacks muscular co-ordination and control and becomes awkward in his movements, often self-conscious in the extreme. Something akin to a self-conscious period may be observed in language. Before this period, language was a more or less spontaneous form of expression with the element of pleasure centered chiefly in the motor and auditory sides; but now, with the changes of mental attitude, voice, etc., the interest changes from a subjective, undifferentiated to a differentiated, conscious, and objective element of the self—an instrument of thought to be used, changed, re-adjusted to meet certain ends. The adolescent mind may at times be thronged with new experiences; new emotions may stir it; new views of life may appear; but for the expression of these impulses, the old language vocabulary may be entirely inadequate, and the youth may in spite of the supplication of Phoenix to Achilles "sit as dumb for want of words, idle for skill to move." There are periods when the youth seems tongue-tied; at times the insipient forms of expression end in vain imaginings; he sees himself the orator addressing learned bodies of people or the centre of a social circle; or perhaps winning fame by writing a poem or novel. There are other times when poems are committed and recited; when attic poetry is actually produced. There are still other times when the youth plunges with great vehemence into oratory and debate. That the adolescent does experience such a dumb-bound feeling is clearly shown by studies which have thus far been made.

THE DUMB-BOUND FEELING.

The studies of Miss Williams (85) and Mr. Conradi (18) go to show that the adolescent does become painfully conscious of the breach between the mind's content and its power of vocal expression. "The thoughts and feelings come too fast" for the channels of expression. This feeling of dumbness may be further augmented when the adolescent matches his own naïve expression in speaking with those of his "superiors" who use correct grammatical forms and literary style. To overcome this embarrassing predicament the individual "takes a spirt."

To fill up the "vocal gap" he seizes upon words, phrases, slang expressions, and appropriates these with eagerness and enthusiasm; foreign languages are easily acquired; the uninteresting spelling-book, dictionary, and lexicon are voluntarily studied in order to find suitable terms that shall express in an exact, concise, emphatic, yet in a "beautiful," informal, and natural, manner just what the soul experiences. The more explosive expressions appear in the forms of oaths, and even swearing itself is indulged in with impunity. To cultivate a "literary style" many individuals imitate the style of their instructors, conversationalists, and literary writers. During later adolescence, when the power of expression has developed, there is in many cases a positive reaction against imitation. Slang is considered vulgar; the adolescent thinks its influence upon English is bad, or, as others think, it leads to swearing, which is positively bad.

— 14-15. Could not find words to express my feelings. I had grand and airy thoughts, but could not express them.

M., 17. Very difficult to think and speak at the same time; came to feel dumb-bound.

M., 21. Hard to express myself when with those who are not in sympathy with me.

M., 19. I find it hard to use good grammar when with my superiors.

F., 28. From twelve to eighteen I was fluent and never failed for a word. Criticism at eighteen for use of language made me conscious and stumbling.

M. About twelve I had feelings too deep for me to express.

F., 17. The dumb-bound feeling expresses my condition exactly. This is especially true when I feel that a thing is so.

F., 20. I have found it harder to express myself; that is, I have far more thoughts, but cannot readily put them into words. The thoughts seem ready to burst forth, but the words will not come.

F., 23. If a little embarrassed at thirteen, I found it almost impossible to talk.

M., 18. Find it much harder to express my thoughts, especially if it is something I feel deeply.

F., 28. Seems harder for me to express myself in words than ever; for I hear others talk well, and in trying to choose my language, I find that the right words will not come at the right time. I do not want to use my baby language, and so find it hard to say what I want to. If I used my old language, I could say it easily.

It is reported of Webster that he could not rise to speak before the school at fourteen, that he was fond of nature and solitude; and that his oratory of the Boscawen days smacked of academic artificiality and floridity, that the style was strained and stilted, due perhaps to his growing thoughts which could not readily adapt themselves to simple words, but associated more naturally with larger expressions.

"Studied dictionary to find new words."

"Used large words to talk to myself."

"Two girls used sodium chlorate and H_2O at home."

"Studied dictionary, soon got tired. Had read life of Shakespeare and learned range of his vocabulary."

"Used to like to write words with the letters *m, n, a, e, o.*"

"Learned foreign words from spelling book and tried to use them."

Adolescence has its periods of primal secrecy, when the soul at times quiets down. It shrinks from human society, and longs to be alone with Nature and its own longings and reveries. Lancaster has shown that there are those who long for the solitudes of Nature as early as eight and nine years, but that it becomes a passion at thirteen and fourteen. This new life calls for a language which is at once apparent in the so called *Secret Languages of Children*.

Dr. Krauss (45), Dr. Chrisman (15), and Thomas Higginson have given illustrations of this form of language, and have shown that its use is well-nigh universal among civilized people. The languages are produced partly in the interest of the secrecy which the youth feels, in order that conversation may be carried on without disturbance or divulgence; and partly in response to the new ideas and impulses of the pre-adolescent and adolescent ages. Dr. Chrisman collected a large number of these languages in use among American children and found that the curve of secret languages begins as early as five or six, increases rapidly from nine to twelve, culminates at approximately the age of twelve or thirteen, and then declines again to seventeen or eighteen years. Col. Higginson reports the language of two girls of thirteen who had made their "dialect" in the most vivid sense a living language, in that new words were constantly being added. "Many of the words are expressions of certain subtle shades of feeling which are constantly called forth in new forms by new experiences. They have now more than two hundred words arranged in a manuscript dictionary."

Mr. G. Schlegel (45) observed the use of secret languages especially among school-going boys and girls in Hungary. Their purpose in using them was to communicate in a language not understood by the teachers. "On going to China," he says, "I was therefore not a little astonished, when arriving in the year 1858 in Amoy (China), to detect a similar secret language among the Chinese children constructed upon the same principles. It was called the *sa-la* language, and the dodge consisted in doubling or trebling the syllable, and changing the initial consonant into *s* or *l*. E. g., *goá kâ lí kóng* (I to you say) became *goáloasoa kâlása lilisi kónglongsong*." Dr. Krauss' collection of over one hundred fifty specimens of secret languages in use among European children verifies what Dr. Chrisman found true of the large number in use among American children, that many of these languages have been

handed down from generation to generation, sometimes changing in part to suit the user's purpose. In other cases, individuals have deliberately arranged a system of characters for communication. The sacred dialects not infrequent among barbarous nations, and the arbitrary perversions of the conjuror, according to Max Müller, are analogous to the secret slang dialects of the schoolboy, the European representative of the barbarian. At Winchester, for example, a secret jargon has been handed down from generation to generation, into which every new-comer is duly initiated like a fresh member of the thieves' fraternity. The motives for using the language, as given, are for the purpose of secrecy, the mere love of using a language different from the ordinary, so that those outside of a circle or "clique" are debarred from understanding the proceedings of the selected few, or to send cipher messages in the form of written characters, taps, eye winks and the like. Still others use it in imitation of older children.

Dr. Chrisman found that the written or cipher languages were generally of local invention, and were not as the spoken handed down. He furthermore classified all the secret languages which he found roughly into six general classes,—the syllabic, alphabetic, sign, vocabulary, reversal, and a miscellaneous class. Some of these possess considerable logical order, and rest upon definite principles; others, as the alphabetic, are wholly arbitrary, and consist of detached words and phrases which are learned by those wishing to use the language.

"I wished to know it so that I might be able to talk with my cousins."

"We did not wish others to understand what we were saying."

"To conceal from a sister four years younger."

"For the purpose of writing communications during school hours."

"To occasionally mystify our elders by using strange words."

"In imitation of the older classes who were reciting in Latin and Greek."

Adolescence, however, has its periods of language eruptions when silence is impossible. In some cases, this may not pass beyond the incipient stages. The youth sees himself, in imagination, addressing a multitude or winning fame by his literary works, a form of expression which is perhaps more common during early adolescence, or the period of rapid growth. Others become eloquent in telling thrilling stories to a company of intimate friends. Others repair to the attic chamber to give expression to their thoughts in prose or verse. Mr. Conradi found among the two hundred and two returns that forty-three per cent. had experienced a definite period of spontaneous poetry writing; and Mr. Lancaster reports that fifty-eight of the one hundred and twenty famous persons whose biographies he studied had written poetry at an average age of fifteen.

Tolstoi says in his biography: "I would fancy myself some great man who had discovered new truths for the good of humanity, yet was too bashful to meet common people calmly. The virtuous thoughts which we had discussed had only pleased the mind, had not touched the feelings of the heart. The time came, however, when these thoughts returned to my mind with such fresh power of moral revelation that I took fright, thinking what an amount of time I had been wasting, and I resolved that very second to apply these thoughts to actual life." Keats experienced a great change in his life at fourteen. Mabie says of him: "There comes a time in the life of a boy of such gifts when the obscure stirrings become more frequent and profound. The imagination no longer hints at its presence, but begins to sound its mysterious and thrilling note in the soul. There is no other moment so wonderful as this first hour of awakening, this dawn of the beauty and wonder and mystery of the world, on a nature that has been living only the glad unthinking life of the senses. It came to Keats in his fifteenth year. It came with that sudden hunger and thirst for knowledge which consumes the days with desire as with a fire, and fill the young heart with passionate longings to drain the cup of experience at a draught. He was at the morning hour when the whole world turns to gold. The boy had suddenly become a poet."

F. I used to mount a barrel in the barn and imagine myself some great speaker with thousands and thousands of the most cultured people listening to me.

M., 19. At sixteen I got an idea that I was to be a great novelist. In the garret I wrote great works. Some of them are titles like *The Black Hand*, and *The Lost Lover Reclaimed*. I pictured countless admirers.

F., 20. Contemplated a musical career, fifteen to sixteen. I imagined myself the greatest musician in the world. I could see the audiences fairly spellbound, hear the applause at the end, and see the handkerchiefs wave. Now it is all past.

F., 18. At thirteen I craved history and religious literature, then novels and plays. Had a craze for the opera. Used to write poetry at thirteen. Now literature pertaining to God and Nature appeals to me most.

F. At fourteen told stories of desperate characters.

F., 18. First liked fairy tales, then novels, then books of travel. Wanted to write stories, tried, and failed.

M., 22. I attempted to write poetic prose and unpoetic verse. Read Kinsley, Scott, Irving, Bronte, then Curtis, Dante, Schiller, and Shakespeare.

F., 19. At fifteen I had a time of writing poetry on love, due to falling in love with an older and superior girl.

There is, however, another factor which similarly influences the growth of language. With the growth of self-consciousness, the adolescent instinctively becomes conscious of his personal appearance, his dress and manners, and seeks to correct

any untidy habits; he also puts on ornaments and bodily adornments: in short there is a development of what Darwin calls a *sense of the beautiful*. This love of adornment is seen in language by an introduction of descriptive words, figures of speech which sound "pretty," epithets, rhetorical elegance, gems of thought from literature, etc. Mr. Conradi found among over two hundred cases, forty-two per cent. had experienced periods of extreme adjectivism, nounism, or adverbism, principally between the ages of twelve and seventeen. Figures of speech appeal especially to the later adolescent mind, and this seems natural when we recall with Channing the purpose of figurative speech, which is understood to be that of fancy, perhaps of display, that which animates and delights. The youthful mind loves these rich foliages and blossoms of language, and thinks less at the moment of the solid trunk of logic and the slowly forming fruit beneath.

When twelve, it seemed to me the more adjectives I used, the more expressive my speech would be.

When twelve, I placed all the adjectives before a noun I could.

Especially favorite expressions are recorded as follows: Perfectly delightful; glorious good time; a beautiful, magnificent, audacious piece of work; the dirtiest, meanest, outlandish thing; a handsome, good-looking, attractive young man; the sweetest, prettiest, and loveliest hat; an immense, great, big house; exquisitely beautiful; simply great; a great, big, beautiful doll given by my dear, sweet mother.

A boy in writing to his mother filled half the letter with foreign phrases.

Another person used to pretend to talk in foreign languages by using queer sounds and unheard-of words.

At seventeen: My room-mate and I often take certain lengths of time in which we try to be elegant.

At seventeen: Study unabridged dictionary to be elegant.

Aged ten: Memorized expressions that seemed elegant, modified them, and then used them.

The tendencies in the use of written language forms of the pre-adolescent period continue during this period with an increasing number of condensed and organized sentence structures. This is especially significant in considering the lines of the language interest, when we compare it with the development of the form of English literature. Dr. Sherman (73) has shown that the Ante-Elizabethan, and even the Elizabethan, prose sentences are crabbed and heavy, and it is often necessary to re-read before the probable meaning reveals itself, while ordinary modern prose is clear and almost as effective to the understanding as oral speech. On measuring the number of words per period (sentence), taking twenty-five, fifty, one hundred and then five hundred periods of each, Professor

Sherman found the average number of words per period of the following authors respectively: Fabyan, 63.02, with as many as 141 words in two sentences; Spenser, 49.82, with 152 words in two sentences; Hooker, 41.40; Macauley, 22.45; Channing, 25.73, with 108 words in seven sentences; and Emerson, 20.58, with 88 words in eight sentences. In the early prose writings there are many predications. Chaucer contains on an average of 5.24 predications in an average of 480 periods, with only four per cent. of the total number of sentences simple; Spenser, an average of 4.68 predications in 500 periods, with eleven per cent. simple sentences; Channing, 2.56 predications, with thirty-one per cent. simple sentences, each in 500 periods. And here, again, as in child language, the change is due, according to Professor Sherman, to the operation of the principle of economy and intensification of energy. When the modifying and modified clauses are presented in mass, all on the same basis, the mind of the listener must receive and interpret the declarations. This can only be done after inferring the principal and subordinate parts. Hearing, consequently, becomes more difficult, and interpretation, less accurate; language is more obscure. The child instinctively, as his thought power grows, passes from the loose, involved, obscure sentence, which is halting and stilted, to the new, which furnishes the mind a medium of expression consisting of leaps and bounds, touching only here and there upon the mountain peaks of thought for a clear vision. It leaves much to suggestion and intuition, which lies in valleys of the suppressed parts below. This requires a different type of mind, one which is able to take a wider view as to the meaning of things. This is the important change in language structure of adolescence, and when once acquired, gives a feeling of at-homeness in general conversation and literary thought.

(3) *Training and Conclusions.*

The highest types of the language interest are represented in a clear-cut conversational style, in literature, in literary prose, poetry, debate, and oratory, all of which have their regeneration in the dawn of adolescence. These have ever been the objective points of the instructors of youths, every age placing its own special emphasis.

That the Greeks understood the adolescent mind, and appealed to the self-assertive and combative instincts, is seen in the nature of the instruction which Plato provided. "The Platonic myths," says Dr. Hall (31), "are precisely suited to the adolescent stage of psychic development, when sentiment is three-fourths of life, and symbolism and parables are perhaps chief among the methods of reason." If we add to this the

discussion of the larger questions of life, so full of interest for the adolescent, and the dialectic method, we can understand why Socrates and the sophists were at once persons of interest and admiration for the ephebic youths.

The poems of Homer abound with proof of the estimation in which the powers of oratory were held by the Greeks, and of the attention with which it was honored as an object of instruction in the education of youth. This is seen when Phœnix supplicates Achilles to lay aside his wrath, recalling his father's committing care:

"I, whom thy royal father sent as orderer of thy force,
When to Atrides from his court he left thee for this course,
Yet young, and when in skill of arms thou didst not so abound,
Nor hadst the habit of discourse that makes men so renowned,
In all which I was set by him t' instruct thee as my son,
That thou mightst speak when speech was fit, and do when deeds
were done,
Not sit as dumb for want of words; idle, for skill to move."

Oratory was the Art of Arts among the ancients. Plato defined it "as the art of enchanting the soul, and he who would be an orator has to learn the differences of human souls—they are so many and of such a nature, and from them come the differences between man and man. . . . He who knows all this, and knows when he shall speak and when he should refrain, and when he should use pithy sayings, pathetic appeals, sensational effects, and all the other modes of speech which he has learned;—when, I say, he knows the time and seasons of all these things, then, and not till then, is he perfect master of his art."

The conditions under which oratory developed among the Greeks and Romans have been pointed out by Mr. L. Sears. Still other conditions besides a literary atmosphere were necessary to its freest development; for this form more than any other demands favorable surroundings. Poetry may flourish in days of adversity, as among the captive Hebrews by the waters of Babylon, or in the disordered England, when Milton wrote his great epic. Sad prose may be written within prison walls, like Sir Walter Raleigh's famous apostrophe to death; but eloquence has never been successfully cultivated in captivity or under despotisms. It is in free states and under popular governments alone that oratory can flourish. The art of persuasion is valuable only as the people can be appealed to on the subject of public affairs, and where their judgments can be enlightened for the enforcement of political measures, and their feelings aroused sufficiently to lead them into personal activity and sacrifice; and where eloquence and freedom go hand in hand, the most remarkable exhibitions of human ability occur. One of the duties of the Greek citizen was to conduct his own

affairs in court, stating his claim and arguing his case. The plausible and capable citizen secured his rights while his diffident and tongue-tied neighbor could get no redress. And it is possible to conceive, rising upon the shoulders of such a populace, a Demosthenes, of whom it is said: "He moves, warms, and captivates the heart." Every oration of his is a close chain of reasoning that represents the generous notion of a soul who disdains any thought that is not great. His discourse gradually increases in force by greater light and new reasons which are always illustrated by bold figures and lively images. One cannot but see that he has the good of the republic entirely at heart, and that nature itself speaks in all his transports, for his artful address is so masterly that it never appears. To Quintilian the ideal man was the *bonus orator* with all that that implied.

The Middle Ages placed its emphasis upon dialectics, and permitted it to degenerate into a low form of eristics. Alcuin and Pepin employed these exercises *ad acuendos pueros* (to sharpen the wits of the pupils); and they were used, according to Drane, by the English teachers as late as the fourteenth century. "What is writing?" asks Alcuin. "The keeper of history." "What is speaking?" "The interpreter of the soul." "What is the liberty of man?" "Innocence." Etc., etc. In the Mediæval Universities, instruction partook of two forms,—the lecture (*lectio, lectum, prælectio*) and the disputation. The purpose of the instructor in the former was to set forth and explain the text; the purpose of the disputation was to elucidate and firmly establish (*ponere et determinare, arguere et disputare*). The disputation stood at the middle point of academic life. It was for this that the lectures were prepared, and he was the ablest scholar who possessed the greatest amount of ready wit and acumen in debate. Upon the disputations depended faculty honors, and at Padua students were for a time required to dispute one hour daily from the opening of the academic year to Easter time. The Jesuit appealed to the impulse of competition and combat by emphasizing disputation and debate as the mode of instruction. The modern literary societies and debating clubs now found in connection with all of the colleges and many secondary schools in America give expression to the spontaneous oratorical and debating impulse of the adolescent. The history of these societies may be traced back to the spontaneous student gatherings of the Middle Ages which were held for social purposes and where there was considerable eating and drinking to stimulate the sluggish mind, after which there was some rather bitter, often personal, theological disputation. As rapture and enthusiasm are the parents of poetry, so freedom gives birth to eloquence. The literary,

debating, and oratorical societies are at the same time the spontaneous expression of, and the training school for these spontaneous forms of expression.

The formal language training for the adolescent to-day in many cases still places the emphasis upon the skeleton of language,—the definitions of grammar and rhetoric, the form of expression and criticism. Literature is too carefully analyzed, and every part properly classified. The composition which the student writes is, in many cases, not an expression of his burning thoughts upon a subject, or if it chance to be, he is required to hang it upon a gambrel outline while it is dressed according to the principles of grammar and logic. All these methods, at their very best, tend to focus the attention upon form rather than spirit, to make the youth over self-conscious of that which ought to be unconscious; consequently, as these studies clearly show, there is an interference with the natural processes of thought. There is a period when the youth appears to be mentally ready for grammatical analysis and logic, which is, however, after the language interest has well advanced in its development and the logical powers manifest themselves by an interest in analysis. The youth often becomes a stickler for grammatical form and logical subtleties. That is the favorable opportunity for language analysis and criticism.

That the results of modern methods are unsatisfactory to pupil, teacher, and parents, one need but read the criticisms. Psychology of adolescence and the experience of those races which have succeeded in developing a high standard of the language art emphasize the following points:

I. When the adolescent mind pushes out into nature and books, let the opportunities be at hand to feed the soul, thus preventing it from turning in upon itself and becoming too conscious of its own consuming hunger: 1. By permitting it to gain experience in a hand to hand contact with nature and real life; 2. By permitting it to take its natural flight in books on those subjects which appeal to it,—but in both, by sympathetic suggestion, direct it in the paths of the race experience and literature.

II. Since the proper form of expression can only develop in response to proper thinking, the emphasis must be placed upon a stimulation of the thought processes. The youth should be permitted to read and commit to memory much good literature of interest to him, but he should *hear* and *discuss* it more.

III. Youth is a period of rapid growth, consequently there is a period of normal imperfections and abnormalities, which growth alone can remedy. The instructor can only wait and set a good example.

IV. The spontaneous impulse to speak, write, recite, debate, and declaim should be seized upon and encouraged by successful practice, and directed by constructive criticism.

V. Since the interest in the logical processes develops later than the expression, and does not necessarily contribute to power of expression, grammar and logic should be studied only after the language has become well established.

VI. Since the soul is enriched by contemplating the larger problems of life, encourage the youth to engage his mind in silent meditation at such moments when it is at its best, even though language is inadequate for expression.

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IV. BIBLIOGRAPHY.

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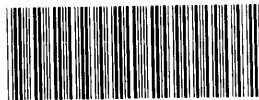
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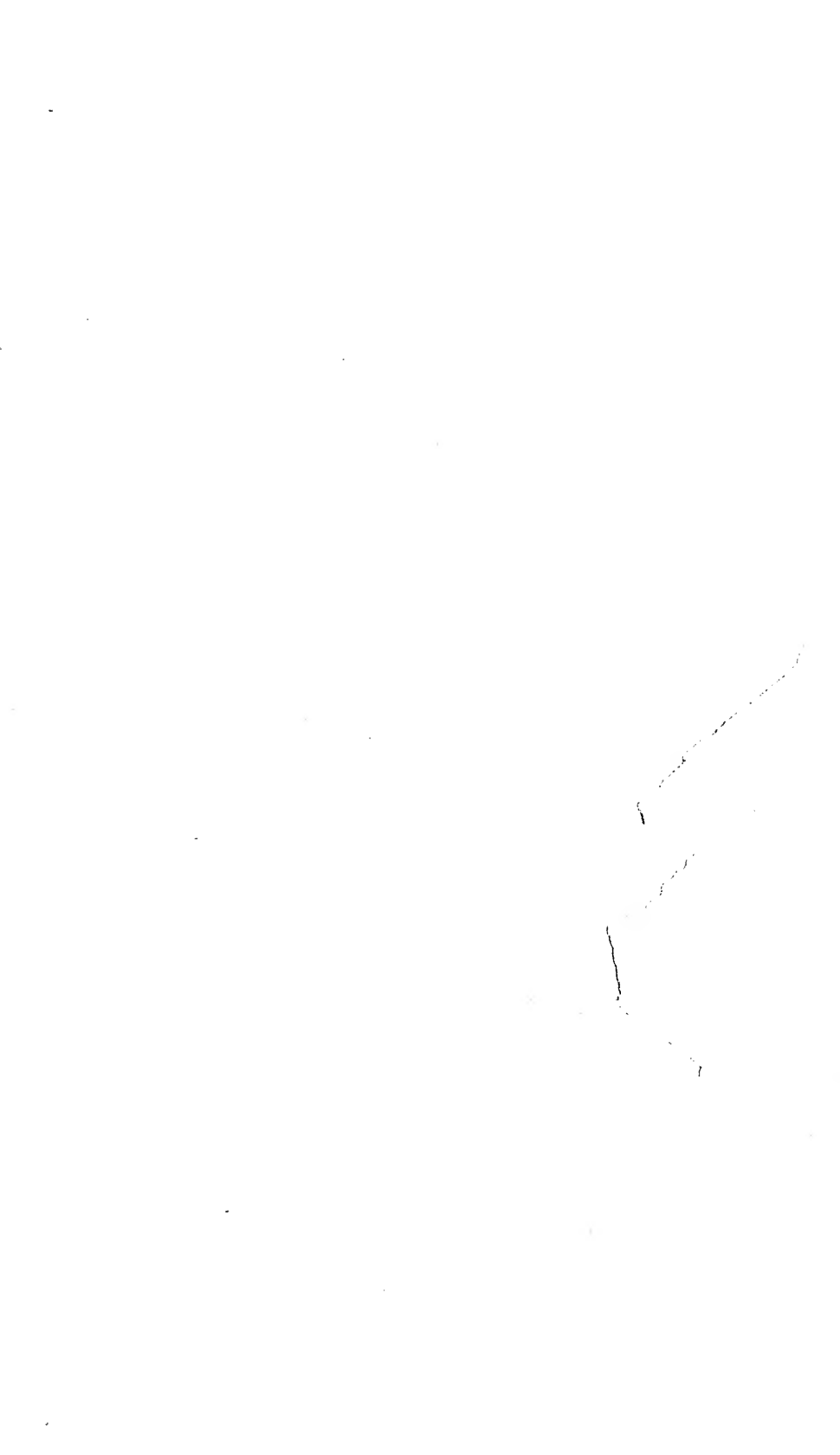
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